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FUNCTIONAL
NERVOUS DISORDERS

FUNCTIONAL NERVOUS DISORDERS: THEIR CLASSIFICATION AND TREATMENT

BY

DONALD E. CORE, M.D. (Manc.), M.R.C.P.

*Honorary Assistant Physician, the Manchester Royal Infirmary ;
Lecturer in Neurology, the Victoria University of Manchester*

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PREFACE

THE problems presented by the functional nervous disorders occupy a prominent position in present-day medicine, and their importance has been emphasized as a result of the recent war. The extent of the literature dealing with them is great and growing greater, yet it is probably true that in no branch of medicine is there more confusion and lack of agreement than in that which deals with these abnormalities. This absence of agreement is to be found practically everywhere in their sphere ; etiology, symptomatology, diagnosis, prognosis, and especially treatment.

One source of this confusion would appear to be associated with the current vagueness in the definition and classification of these conditions, and their relationship, not only to each other, but also to organic abnormalities. Most physicians certainly will agree that a pathological process is neither a necessary nor a usual precursor of a pure functional nervous disorder, but the possibility of such processes being determined thereby has not as yet received its due consideration, and the same applies to the important rôle played by some of these disorders in human evolution.

The principles underlying the forces operative in somatic evolution have received detailed attention during the past century ; their importance is well recognized, and medicine has benefited thereby ; man, anatomically, physiologically, and pathologically, possesses much in common with the lower animals ; it is important to realize, however, that in his psychical activities also he shows an association with such organisms, and that certain individuals manifest this association more strikingly than others. Certain departures from the normal as far as structure is concerned are liable to be associated with behaviour which departs from that which characterizes normal human behaviour and

which approaches to that found normally in the non-human animals; certain types of idioey are cases in point. The involutionary changes of senility afford a further example of the same principle; in neither case, of course, can the accompanying behaviour be considered functional owing to the associated structural defects.

Psychically, however, both are associated, in that both show deficient emotional control, and emotional control would appear to be an important acquisition on the part of the human, as compared with the non-human, animal.

It is possible, of course, for emotional control to be defective in association with factors other than those which subserve structural defect; in such cases we have abnormal human behaviour in the absence of any apparent organic determinant, and behaviour which approximates to that which obtains normally among organisms in which emotional control has not evolved; the factors associated with such a condition of affairs in the human being are for the most part to be found in the empirical environment in which the individual is developing. On the other hand, if or when such an environment becomes normal, then, in accordance with the absence of any structural defect, behaviour also becomes normal.

Abnormal behaviour, on the part of a structurally normal human individual, developing in association with an environment subversive to the formation of proper emotional control, may be taken as being synonymous with hysterical behaviour; in so far as the individual in question is structurally normal his hysteria fades if and when the defective environment is replaced by one which is normal; as he grows older, in other words, provided his behaviour be not perpetuated as an 'illness'. Idiots, congenital and senile, may manifest behaviour that resembles hysteria ('hysteroid'), but they are not hysterical, in that their behaviour is associated with structural abnormalities.

In so far as the child at birth is emotionally uncontrolled, its behaviour, conforming to that of the non-human organism, is hysteroid; it is, however, normal for the child at birth and is not hysterical from the standpoint of clinical medicine.

From the point of view of evolution, therefore, we have an ascending scale of psychical activity, represented by: the non-

human organism, the human idiot, the human infant, the hysterical adolescent, and normal man; the last being liable to revert towards a non-human type through the intervention of senile involutionary change. This ascent runs *pari passu* with the acquisition of emotional control and vice versa; when the hysterical individual acquires such control in normal intensity, then he ceases to be clinically hysterical.

In so far, however, as all mankind has developed, psychically as well as somatically, out of an atmosphere common to his non-human precursors, all mankind of to-day, however normal, manifests behaviour, the principles of which are the same as those which underlie behaviour that is recognizably (that is, clinically) hysterical.

The grossly hysterical individual is not only hysterical (using the word in its broadest sense) at the time of occurrence of his symptoms; having developed in a specific environment, his personality is, for the period of his abnormality at any rate, affected by objects in his environment in a manner quantitatively different from that which obtains in the individual that is not, clinically, hysterical. He reacts specifically to certain of his body sensations when these are of a disagreeable type, and there is a tendency for his behaviour to be determined to excess by expectation.

Clinically hysteria is to be considered as primary, secondary, and tertiary, according as to whether the manifestations are associated directly with an uncontrolled emotional tone, with discomfort of any description, or with the expectation of discomfort respectively.

Hysteria and hysterical states, then, may be looked upon as a psychical reversion on the part of the human towards psychical mechanisms out of which the normal human has evolved; it is an abnormal emphasis on the part of a human being that is structurally normal, of his non-human ancestral psychology; in other words, it is a regressive condition.

The acquisition of emotional control on the part of normal man renders hysterical behaviour abnormal, and the degree of abnormality may be taken as an index of the extent of normal man's progression from the non-human animal. But with the acquisition of such control mankind enters upon a new battlefield; in association with emotional control he has developed

pietorial memory and its potentiality, dread. The control he has gained is operative primarily in separating the kinetic aspects of certain instinctive activities from their affective—man no longer of necessity runs away, for example, when he is frightened—and his behaviour under many emotional states does not represent that which, phylogenetically, is proper to such states. The individual who is miserable because he is unable to satisfy a strongly-felt emotional tone is essentially a failure, and the intensity of his depression corresponds to the extent of his failure; he has failed psychically to make good in his environment, and the same applies to the man who is oppressed by dread. Both are organisms which have not succeeded in the atmosphere in which this novel struggle for existence is set; the atmosphere is psychical, but failures therein bear the same significance as do failures in the struggle for existence among the non-human animals on the somatic plane. Psychical incapacity bears with it the potentiality of precocious somatic death, and people who are psychically incapacitated in this way are to be regarded as psychically dead. The mechanism of deletion is operative through the sympathetic nervous system by the intervention of rising blood-pressure and its implication, arteriosclerosis; such individuals tending to the development of progressive involutionary changes in the heart, brain, and kidneys.

The pre-organic phases of this progression constitute a great group of functional nervous disorders which differ acutely from the atavistic, regressive, or hysterical group already mentioned; they may be called the 'progressive' or 'sympathetic' neuroses. Such disorders fall naturally into two subdivisions clinically: one in which the symptoms—definite in some cases, vague in others—indicate with equal clearness the non-satisfaction of desire (the instinct-distortion or dysthymic group), and another which is associated psychically with dread and clinically with hyperpiesis and pain (the memory- or mnemo-neurosis).

Both of these subdivisions are capable of existing for a time independently of each other, but the first, if untreated, inevitably passes into the second, and the second does not occur for any length of time without developing symptoms of the first. Untreated cases of the second group pass into the organic or arteriosclerotic stage.

A limited number of the mnemoneurosis cases are developed around a dread which differs from the common variety in that its *raison d'être* is not, at first sight, apparent. The factor of memory in such cases plays an important rôle; the neurosis in question is essentially a memory-neurosis and is emphatically not hysterical. These cases are of interest to the clinician in that they comprise the great majority of the *outré* obsessive 'phobias', and they may reasonably be treated by that form of psychotherapy which has come to be known as 'psycho-analysis'. 'Psycho-analysis', however, is a somewhat pompous name to apply to the simple procedure which, in most of such cases—and they are not common in civil practice—is all that is necessary to bring about a resolution of the neurosis, and which amounts to little more than detailed case-taking.

A degree of emotional control short of the normal for the community in which the individual lives may be referred to as 'hyperthymia', and the hyperthymic state may be of importance to the practising physician. It varies in intensity, from very great emotional uncontrol (such as is found in hysterical people) to control which only just falls short of the normal.

Hysterical people are necessarily hyperthymic (primary hyperthymia), and the progressive neuroses do not exist for any length of time without the development of secondary or consequent hyperthymia. Hyperthymia does not in itself constitute a functional nervous disorder, but it modifies the symptomatology of the progressive neuroses when it develops in their train; primary hyperthymia may be present in an intensity too slight to be compatible with clinical hysteria; the emotional control developed in such people, though defective, may be operative in the formation of a neurosis of the progressive group; the clinical picture in such cases differs from that which commonly obtains in the progressive functional nervous disorders, arising in men of average or normal emotional control. The same may be said of organic disease; certain organic disabilities in hyperthymic people may sometimes present a puzzling combination of symptoms, especially if the organic element be slight and is overlooked.

The classification of the functional nervous disorders adopted in this book is based upon the above considerations; it is one

which I have found to be useful in practice, and may be summarized as follows:—

A. Regressive.

Hysteria.

1. Symptoms arising in the atmosphere of a reerudeseed emotional tone and associated with behaviour determined in the atmosphere of an analogous emotional tone in early life characterized by an abnormal absence of control: *Primary hysteria*.
2. Symptoms arising in an atmosphere associated with discomfort in the broadest sense in any part of the body: *Secondary hysteria*.
3. Symptoms arising in the atmosphere of expectation:
 - a. Of discomfort in any part of the body;
 - b. Of symptoms or abnormal behaviour generally, determined at inception by any of the preceding mechanisms: *Tertiary hysteria*.

(*The Hyperthymic State*.—This, as mentioned above, does not in itself constitute a functional nervous disorder; but it requires consideration on account of its influence upon certain of these disabilities. According as to whether the individual has never acquired emotional control in normal intensity, or has at one time acquired such control, the hyperthymic state may be referred to as *primary* or *secondary* respectively.

There is no standard of hyperthymia; it may be defined as the condition of any individual whose degree of emotional control is less than the normal for the community in which he lives.)

B. Progressive.

The sympathetic functional nervous disorders.

1. Symptoms arising in the atmosphere of an emotional tone, the appropriate conative aspect of which is prevented from developing: The *instinct-distortion neuroses* or *dysthymias*.
 - a. *Confusional* or ‘*centrifugal*’ dysthymia.
 - b. *Introspective* or ‘*centripetal*’ dysthymia.

2. Symptoms arising in the atmosphere of dread :
The *memory-* or *mnemo-neuroses*.

- a. The elements of the dread are 'logical'; readily understandable by the patient and the generality of mankind: The *ordinary form of the memory-neurosis*.
- b. 'Illogical' dread, the elements of which are entirely incomprehensible to the patient: The *obsessive form of the memory-neurosis*.

The mechanism by means of which emotional activity and somatic behaviour are associated is not dealt with in this book. Such considerations are of very great interest, but to the clinician they are perhaps of secondary importance, and the scope of this book precludes their proper discussion. As to whether conditions recognized as functional are invariably preceded by structural alterations, never occurring in their absence, this is quite possibly the case. Objective manifestations of a normal psychology are necessarily somatic, and the psychical evolution of an individual must of equal necessity be associated with progressive modification of the apparatus which subserves these objective somatic manifestations. In the case of gross or clinical hysteria, in so far as the objective manifestations differ from what is normal, it is reasonable to think that the associated somatic mechanisms subserving such manifestations also depart from the normal; in that clinical hysteria is, so to speak, cumulative, only becoming apparent in certain atmospheres, the departure from the normal on the part of the somatic mechanisms may, in a fashion, be looked upon as preceding the clinical manifestations. Many hysterical people, apparently otherwise normal to the uninstructed observer, show signs, often exceedingly slight, of organic defect to the physician; these should be considered as cases of congenital mental deficiency with hysteroid behaviour rather than cases of pure hysteria, in which no such signs of organic defect can be found. It is, of course, possible that even in these cases the defect, though undiscoverable by methods as yet available, is existent; and that all cases of hysteria are in fact congenitally determined. It would be impossible to disprove this, though the contention would appear to imply little more than that all people do

not necessarily conform to one standard biochemically and microscopically.

From the standpoint of the clinician, the possibility that certain types of behaviour are associated with precedent neuro-muscular modifications cannot be taken as indicating that the behaviour in question is caused by such modifications; the behaviour and the physical changes are rather to be looked upon as the resultants of other forces—the function possessed by all living organisms of adapting themselves to the environment and the environment obtaining in the case of the individual in question being two of them.

Clinically, many cases of hysteria are capable of restoration to perfectly useful lives, and lives that are normal as judged by the standards of the communities in which they are lived. Such cases are truly functional, and the problem of an underlying physical basis is of subsidiary importance to the practising physician.

The same applies to the sympathetic functional nervous disorders. In so far as the clinical symptoms supervene upon a phase of maladaptation to the environment, it is reasonable to think that they may be preceded by signs apparent only by special methods of investigation. We may go further than this; the schizophrenic reaction does, I think, afford a means whereby individuals may be classed as being especially liable to develop these neuroses as compared with their fellows; it is more than probable that at the time of attainment of adult life the potentiality of an individual for the development of a sympathetic neurosis is 'set'. But this is very far from being synonymous with the statement that the neuro-muscular dispositions associated with this state of affairs are the causes of the subsequent neurosis if and when it comes about. To satisfy ourselves on this point we should have to demonstrate such departures from the normal in the infant at the moment of birth, and to prove that in every case they are inevitably present at birth and never of later development. On the other hand, it is probable that certain individuals at birth are disposed (comparatively) to the development of the sympathetic neuroses in later life, but the more likely this is in the case of any one individual the further the subsequent 'neurosis' departs from being truly functional.

From the clinical standpoint there would appear to be only one test as to whether any one of these disorders is in reality functional, and that is its potentiality for a complete restitution to the normal. It is probable that no true functional nervous disorder remains purely functional for any great length of time.

It is my pleasant duty to acknowledge the debt of gratitude I owe to many friends who have helped me in my work. My thanks are especially due to my colleagues on the staff of the Manchester Royal Infirmary for allowing me to study cases under their charge, and to those who during the war gave me access to their patients in different military hospitals.

In particular I must thank my brothers, C. G. Core, M.Sc., and A. F. Core, M.Sc., of the Physical Chemistry Department of the Manchester University, for much valuable assistance.

DONALD E. CORE.

26, *St. John Street*,

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CONTENTS

CHAPTER	PAGE
<i>Part I.</i> —GENERAL CONSIDERATIONS.	
I.—INTRODUCTION - - - - -	1-39
Definition of the functional nervous disorders—The primary instinctive activities of McDougall from the standpoint of clinical medicine—Centripetal and centrifugal emotional tones—Summary.	
II.—BEHAVIOUR IN MAN COMPARED WITH THAT IN THE LOWER ANIMALS - - - - -	40-54
Speech—Writing—Emotional control—Herd instinct—Herd suggestion—Psychical censorship—Summary.	
III.—THE FUNCTIONAL NERVOUS DISORDERS : GENERAL ASPECTS - - - - -	55-65
Regressive and progressive groups—Emotional factors—Environmental factors—Summary.	

<i>Part II.</i> —THE REGRESSIVE GROUP OF THE FUNCTIONAL NERVOUS DISORDERS.	
IV.—HYSTERIA : SOME GENERAL CONSIDERATIONS -	66-96
Environment ; Emotionalism ; Associational dispositions—Summary.	
V.—HYSTERIA (CONTINUED) : SOME CLINICAL ASPECTS	97-119
Age, Sex, Social Status ; Ill health ; Collateral Ill Health—The hysterical individual ; Associational tests ; psychogalvanometry ; concentration tests ; 'schizophrenic reaction', dreams.	
VI.—HYSTERIA (CONTINUED) : CONSIDERATION OF CERTAIN SYMPTOMS - - - - -	120-160
Primary hysteria ; convulsions and the phenomenon of multiple personality—Secondary hysteria ; anæsthesiæ, paralyses, amnesia—Tertiary hysteria ; muscle spasms, vomiting, maintenance of hysterical symptoms—Hypnosis—Sleep—Summary.	

CHAPTER	PAGE
VII.—HYPERTHYMIA - - - - -	161-164
The reactions of hysterical people to pain—'Causalgia'	
VIII.—PSYCHICAL DISSOCIATION - - - - -	165-193
Its modus operandi in the different manifestations of hysteria—Summary.	

Part III.—THE PROGRESSIVE OR SYMPATHETIC
FUNCTIONAL NERVOUS DISORDERS.

IX.—PRELIMINARY CONSIDERATIONS - - - - -	194-198
Emotional Control in Man—Cannon's work on the somatic changes in certain emotional atmospheres.	
X.—THE INSTINCT-DISTORTION NEUROSES OR DYSTHYMIAS - - - - -	199-222
Centrifugal ; somatic symptoms—Psychical symptoms ; Course—The Anger-Neurosis ; somatic symptoms—Psychical symptoms—Etiological factors—Centripetal ; the neurosis of unsatisfied desire—Somatic symptoms ; psychical symptoms—Course—Dysthymic states in hyperthymic people—The schizophrenic reaction in dysthymic states—Summary.	
XI.—THE MNEMONEUROSES - - - - -	223-255
Common form—Centrifugal Orientation—Environmental factors ; dread and 'completed dread'—Clinical considerations — Symptomatology — Functional pain — Hyperpiesis and its biological significance—Secondary hyperthymia—The Obsessive forms of the Memory-Neurosis—'Phobias' ; superimposition of dread—'Relative Inattention'—The Obsessive form of the Memory-Neurosis as a war neurosis and its relation to Relative Inattention—Summary.	

Part IV.—SOME CONSIDERATIONS REGARDING THE
FUNCTIONAL NERVOUS DISORDERS IN GENERAL.

XII.—THE DREAM AND ITS CLINICAL SIGNIFICANCE - - - - -	256-274
General Considerations—The Emotional Content and the Incident Content of the Dream—Dreaming in hysteria ; in the instinct-distortion neuroses ; in the memory-neuroses—Summary.	

CHAPTER	PAGE
XIII.—MISCELLANEOUS CONSIDERATIONS - - -	275-292

The Sex Instinct as a factor in their formation : Sex-horror : Sex-hunger : Sex-worry—The traumatic factor—Congenital determination—The Functional Nervous Disorders and Pain—The Relation of the Functional Nervous Disorders to Each Other.

Part V.—DIAGNOSIS AND PROGNOSIS.

XIV.—DIAGNOSIS - - - - -	293-306
--------------------------	---------

From alienistic states ; from epileptic states ; from arteriosclerotic manifestations ; from disseminated sclerosis and general paralysis of the insane ; from early organic disease of the heart and lungs—Functional nervous symptoms in surgical practice—The diagnosis of the functional nervous disorders from each other.

XV.—PROGNOSIS - - - - -	307-312
-------------------------	---------

Part VI.—TREATMENT.

XVI.—GENERAL CONSIDERATIONS - - -	313-315
-----------------------------------	---------

Scheme of examination and its bearing on treatment

XVII.—HYSTERIA - - - - -	316-336
--------------------------	---------

Method of examination and of dealing with the patient—Drugs—Isolation—Yealland's method : Reeves' method—Massage and electrical treatment ; their disadvantages—Methods of suggestion ; Special : hypnosis ; psycho-analysis—General.

XVIII.—THE DYSTHYMIAS - - - - -	337-347
---------------------------------	---------

Rectification of the environment ; avoidance of ideas of disablement—Psychotherapeutic conversations—Institutional methods.

XIX.—THE MEMORY-NEUROSES - - - - -	348-361
------------------------------------	---------

The Psychotherapeutic Conversation—The rôle of work and holidays—Rectification of the Blood-pressure—Secondary hyperthymia and institutional treatment—The Obsessive forms ; psycho-analysis ; light hypnosis—Summary.

FUNCTIONAL NERVOUS DISORDERS: THEIR CLASSIFICATION AND TREATMENT.

PART I.—GENERAL CONSIDERATIONS.

CHAPTER I.

INTRODUCTION.

DEFINITION OF THE FUNCTIONAL NERVOUS DISORDERS.

IT is difficult to state exactly in the form of a definition what is or is not to be included in that group of disabilities recognized to-day as being due to disordered functioning of the nervous system, and this difficulty is an extension of that encountered in the enunciation of the principles operative in the formation of these disorders. In branches of medicine dealing with disorders other than functional, definitions are based on one or the other of two forms of knowledge: the pathogeny of the disease in question, or the symptoms manifested by that disease—causal and effective methods respectively. The former is the better of the two because it is the more precise; it is comprehensive in that it covers any additions that may be made subsequently by clinical medicine. The latter is perhaps the more helpful to the clinician at the bedside, but it has the disadvantage of separating diseases into watertight compartments, and ignoring an essential unity that may exist between two conditions which are manifested by different symptoms. The converse also holds; two diseases may show their activity by similar symptoms, and yet, from the standpoint of course, prognosis, and cause, they may be separate and distinct. No one to-day doubts the unity of two such conditions as tuberculous meningitis and tuberculous disease of the lungs, nor the duality of acute pneumococcal pneumonia and acute pneumonic tubercle.

A definition based on symptoms is most out of place in the field of functional nervous disorders. The experience of the past few years

has shown us that this term includes a variety of different disabilities, manifested by a great complexity of symptoms. We are confronted with the difficulty that patients suffering from one such disability manifest it by 'imitating' the symptoms of other diseases, and sometimes the mimicry is fairly accurate. Again, two patients with the same disorder may be afflicted with entirely different symptoms, and yet the disorder in question may be quite characteristic in both. A satisfactory definition of functional nervous disorders from the standpoint of symptoms is unattainable; the problem must be approached from that of their cause.

Having come to this conclusion, we are faced with the fact that the most careful investigators in the field of these disorders have never succeeded in establishing any demonstrable cause for them at all. By many this is taken as their outstanding feature, and the working definition in vogue among practical physicians to-day is that any group of symptoms for which no cause can be discovered is due to disordered functioning of the nervous system. The most ardent morbid anatomist must admit a cause of some sort; the point is that it cannot be demonstrated by methods available to-day. With certain well-recognized exceptions this definition works fairly well clinically, though it depends too much on personal variations to be of scientific value, and it militates against exactness of knowledge; but in that the absence of any demonstrable abnormality as recognized by the pathologist is characteristic of the disorders in question, this ought to be included in any definition subsequently formulated.

Such an inclusion in the definition has the added advantage of excluding from the realm of functional nervous disorders all those symptoms which are associated with a demonstrable lesion. It is well known that certain organic abnormalities, such as early and compensated mitral stenosis, early phthisis, early disseminated sclerosis, and others, may be, and often are, associated with symptoms which we have come to recognize as 'functional'; such recognition is, however, based upon symptomatic grounds, and is not, strictly speaking, logical. It is difficult to the point of impossibility to exclude in these cases toxic, reflex, secondary degenerative factors, and so forth, and this impossibility would contra-indicate the co-existence of an organic disease with a true functional nervous disorder; such conditions should be excluded by the terms of the definition.

We may say this, then, of functional nervous disorders: they are not determined by any gross or demonstrable pathological lesion. This is, however, at the best, a negative feature, and without modification such a statement would include diseases that are emphatically not functional from our point of view; epilepsy

for one.* It is necessary to examine into the positive or determining factors to render the definition of value.

It is of interest in this connection to review briefly the different ideas that have been, or still are, held regarding the nature of these manifestations. They have been studied for centuries, and the conclusions accepted at different times have been powerful in increasing and diminishing human misery and distress, directly or indirectly. The opinions held may be divided into three groups: the supernatural, the organic, and the psychical.

The Supernatural.—Writings, lay and medical, of the pre-Christian era, show that certain phenomena attracted special attention from the fact of their 'strangeness', people affected being recognized as abnormal, in some cases to the extent of their being looked upon as 'inhuman', and yet not 'ill' in the ordinary acceptance of the term. The phenomena in question appear to have been hysterical; it does not seem as though other functional disorders were encountered, or, if so, they were not recognized as such. The most striking of these manifestations were the abnormal nervous states associated with the practice of religion, for the most part conditions of ecstasy and possession, and the explanation accepted was that the individual so affected lost his or her personality for the time being and was taken possession of by some extraneous spirit, diabolic or divine. Such cases were not confined to the female sex, although they seem to have been more common in them; records indicate the fact that males were similarly affected. This theory of possession by spirits was not confined to the pre-Christian or even the early Christian eras; as late as the eighteenth century we find Gassner, a Roman Catholic priest of Swabia, teaching that many human afflictions were to be attributed to possession; he cured them by suggestion.

A sublimated psychical analogue of this theory is to be found to-day among the writings of modern spiritists; there has recently, since the war, been a considerable extension in the scope and influence of these writings. There is some practical importance in this; it emphasizes the undoubted truth that the more thorough the cult of these cases of possession, whether among the ancient Dionysiac priests or the modern exponents of spiritism, the more common the manifestations become and the more elaborate. The same truth,

* The association between epilepsy and functional nervous disorders will be discussed later; it may be said here, however, that the difference between them is rather one of degree than of kind. The essential factors at work in both epilepsy and the functional nervous disorders of the regressive or hysterical group are the same, but the difference in degree is so great that the two should not be covered by the same definition. The discriminating factor in the definition, as will be seen, is that which postulates the rôle of environment.

of course, was demonstrated by the patients under Charcot in the Salpêtrière.

The Organic.—Only certain hysterical or analogous phenomena lent themselves to priestly interpretation; others were recognized as requiring medical attention. The physician, noticing that women were for the most part affected, and that there was no necessary deterioration of the bodily health in the intervals of the disorder, looked upon the uterus as the etiological factor; and since it showed no apparent physical disease, they described it as wandering from its proper situation, bringing about the symptoms while so doing. This view remained the official medical explanation of hysterical symptoms for centuries; in 1513, Mercado practised 'frictions' on the abdomen in order to restore the womb to its proper place. The uterine theory of course gave the condition its name; it is of interest in that it shows that even in the early days of medicine certain symptoms were looked upon as being in a class apart, and inexplicable on the grounds of the pathogeny then accepted for the generality of diseases. It necessarily restricted the disorder to women; any analogous condition in men being considered either organic or supernaturally induced.

The Psychological.—The modern study of hysteria as such—and it should be remembered that until recently hysteria was the only functional nervous disorder recognized—may be said to have begun in the early nineteenth century under Briquet and Charcot. Laycock, of Edinburgh, preceded the two French physicians, but it is to Charcot especially that the advances in functional nerve disorders at this time must be attributed.

The work of these men was directed to the careful observation of the symptomatology of hysteria and certain hysterical states, and to the attempts to explain such conditions on the ground of concrete bodily abnormalities. In so far as they justified such a pathogeny to themselves, they must be considered as adherents to the somatic theory of hysteria; but the great advance that these investigators made was their recognition of the influence of the 'mind' on these states; Charcot spending some time on the discussion of 'psychic' paralyses, or paralyses due to ideas.

The ground covered during this period was extensive, and an immense amount of clinical material was investigated. The very carefulness with which each case was studied, however, bore unfortunate results for the patient: under such circumstances hysterical symptoms became educated and elaborated; the patient reflecting, as it were, the syndrome of symptoms expected from her.

In addition to his work on the hysterical symptomatology, Charcot investigated the hypnotic state, and it is in this field that his most

striking work was done. Both Briquet and Charcot established the fact that hysteria occurs in men, the former putting the proportion of cases in them as one-twentieth of those in women. Brodie, in 1837, described the hysterical hip-joint condition, and in one of his clinical lectures Charcot, dealing with a case of this nature, refers to the work of Page on analogous conditions, and states that they are due to a suppression of the will or judgement, allowing morbid suggestion to act and to bring about the condition. He extends this theory to the action of trauma in bringing about psychic paralyses, and points out that such trauma need bear no quantitative relation to the effect produced.

It will thus be seen that during the time of Charcot, and largely owing to his genius, hysterical symptoms were defined, and a purely mediæval conception of their origin was discarded in favour of a theory which, in its essence, is accepted to-day. It would be very difficult indeed to overrate the importance of Charcot's work, and the fundamental principle of it was his admission of the influence of the 'mind' in the determination of certain hysterical conditions.

Recent work has progressed along the lines foreshadowed by Charcot, and has emphasized more and more the rôle of the 'mind' in the determination of hysterical symptoms, limiting and ultimately excluding the operation of organic abnormalities as essential factors. Within the last few years investigations have centred on the *modus operandi* of the 'mind' in this connection, and a study of the current literature will quickly convince the student that the problem is as yet far from solution.

The most important work in this psychical field is associated with Janet, Freud, and Dejerine. Janet laid the necessary stress on a symptom of fundamental importance, the amnesia that characterizes hysteria; he looked upon hysteria as a condition essentially associated with 'limitation of the field of consciousness'. Certain events occurring in certain people tend to be subjected to this amnesia and to persist outside the stream of consciousness, after the manner of a foreign body, so to speak, exerting a pernicious influence on the psychical life of the host and thereby giving rise to concrete hysterical symptoms. The actual field of consciousness in such an individual is less than his potential consciousness in proportion to the number of these psychical foreign bodies. The association of hysteria with amnesia for certain events is, in all probability, the most important of all the contributions to its genesis, and all modern theories are based upon its accuracy.

Following Janet, Freud, of Vienna, accepting the principle of amnesia, taught that it was only to be found for events of a particular nature in the life of the patient, and that hysterical conditions—in

fact, that all functional nervous disorders—were due to these events having occurred, which worked through the amnesia they brought about. The events in question belong to the sphere of sexuality; but Freud is careful to point out that by 'sexuality' he does not use the word in its commonly accepted meaning, but rather to cover every activity out of which and upon which sexual activity in the restricted sense is ultimately formed. A host of activities not ordinarily looked upon as sexual are thereby included in the Freudian use of the word.

Much of Freud's work is interesting, particularly in so far as it deals with mechanisms of mental activity as distinct from the etiological factor of functional nerve disease. It is open to the criticism that space-time conceptions are applied to psychical phenomena in a manner that is perhaps not justified, especially in connection with his theory of 'the unconscious'; the concreteness of some of his conceptions are more metaphysical than psychical. His name at the present, rightly or wrongly, is essentially associated with the sexual etiology of hysteria and neurasthenia, and it is difficult to deny that, as practised, the Freudian system is identified with the sexual origin of all functional nervous disorders in the strictly limited everyday acceptance of the term. Freud's theories will be discussed later, but it may be emphasized here that, although the sex instinct can bring about a neurosis, it is not so responsible in the majority of functional nerve disorders; and when it does act as a determining factor, it does not always or even usually do so in the manner described by Freud and his pupils. One of the stumbling-blocks in the way of accepting the Freudian conception of these disorders is the singling out of the sexual activities, and the neglect of others equally important; a criticism which is applicable also to Adler's theory, that neuroses are the result of, or an outgrowth from, the self-regarding instinct.

During the past few years, the study of psychology has received an impetus owing to the recognition of its importance from the sociological standpoint, and in particular the different instinctive activities prevalent among animal types have been investigated. McDougall especially has analyzed these manifestations, and has shown them to present three aspects for study: perceptive, emotional, and conative respectively. Clinically, the most important advance since the work of Janet was made by Dejerine, who pointed out the preponderating influence of emotional activity in the formation of the different functional nervous disorders. The work of McDougall and Myers has made it possible to establish the rôle of the emotions on a scientific basis, apart from all metaphysical conceptions; and it may be said that with the recognition of emotional activity as a factor in the

production of these conditions, the purely speculative attitude of mind towards them gives place to conceptions, capable of verification and extension. The emotional factor in the formation of functional nervous disorders is of fundamental importance, and as such is to be included in any definition of them that is based upon a pathogenic conception.

The manner in which the emotions act as determining factors now becomes the problem for solution. Although it is correct to say that in the absence of emotional activity there can be no neurosis, still all normal animals are emotional, and yet all do not show obtrusive signs of functional nervous disease. Emotions as emotions do not constitute functional nervous disease, which depends rather on the way in which they react upon the individual; such reactions, for the production of such disorders, must be abnormal in some respect, using the word in its widest sense. The reactions responsible are abnormal not qualitatively, but quantitatively.* It is exceedingly important to realize this; the hysterical man or woman need not be any *more* emotional from the capacity factor standpoint than those who, from the standpoint of everyday life, are looked upon as non-hysterical; furthermore, as will be seen subsequently, the way their emotions react on their somatic and psychical manifestations is essentially the same in kind. The difference is one of degree, and is associated with some factor which is not in itself emotional, and which does not introduce any new type of emotional reaction, but which enables apparently normal emotions to exert an excessive, but qualitatively normal, effect. In other words, the mechanism at fault is the 'restraint' of an emotional tone in its relation to its proper conation, such restraint in these disorders varying from that which is normal to the community of which the patient forms a part, in that it is either too small or too great. Functional nervous disorders are inherently associated with defective emotional control.

But, even so, it is necessary to particularize further for the purposes of definition, for the mere statement that functional nervous disorders are expressions of abnormally controlled emotional reactions and not of any gross or demonstrable pathological lesion, is not sufficiently precise; conditions other than functional would be included thereby, certain states of melancholia in particular. A most important factor has yet to be considered: the influence of environment.

The influence of the environment on functional nervous disorders possesses an importance that can hardly be exaggerated; it must be understood, however, that the physical environment is here

* 'Quantitative' as applied to the 'intensity-' rather than the 'capacity-' factor.

implied, and not the philosophical. All mankind is hysterical, but in different degrees, and the extent to which hysterical symptoms become obtrusive depends on environment—the environment of upbringing and that of the present. The symptoms of the instinct-distortion neurosis necessarily depend upon the environment responsible for the blocking of the instinct concerned; the association in these cases is apparent at once: it will be seen later that in the other forms of functional nervous disorders also this factor possesses an equally important value, though one that is not always so obvious. And, in addition to the part which it plays in their formation, the activity of the same factor is to be seen in the resolution of these disorders or their perpetuation: environment is just as powerful in terminating or adjusting these neuroses as it is in forming them. It is here that we find the difference between the conditions under consideration and certain melancholic states mentioned above; in these latter, environment has very little influence in formation and resolution. It is true that a proportion of cases of melancholia appear to be curable: Kraepelin states that about a third make a complete recovery. It is open to discussion as to how far such curable cases are to be considered cases of alienism: it seems possible that they are best looked upon as cases of functional disorder just as hysteria and the distortion neuroses. The crux of the question is the reaction of such melancholic states to their environment: the more definite this is, the more such cases approach the functional order and depart from the alienistic.

Having now briefly enumerated the factors at work in the production of functional nervous disorders, we may group them together in the form of a definition: *Functional nervous disorders are the expressions of abnormally controlled emotional reactions, determined and adjusted by environment and not by any gross or demonstrable pathological lesion.**

It is obvious from the terms of this definition that the factors of importance in the genesis of functional disorders are the emotions,

* It may perhaps be permitted to anticipate here certain conclusions arising out of evidence which will be discussed later, and to postulate the following as representing the rôle of emotional tones and emotional control as far as functional disorders of the nervous system are concerned:—

1. Emotional control is associated with diffusion of an emotional-tone intensity through available anatomical associational dispositions, and varies directly with the degree of diffusion occurring.
2. Consciousness, diffusion of an emotional-tone intensity, and the number of anatomical associational dispositions in activation at any one time, are mutually dependent, and the intensity of any one of these three factors at any time is directly proportionate to the intensity of the other two prevailing at that time.
3. Mental and physical well-being is only attained when the association of an emotional tone with its appropriate conative activity is secured, and, in the

their reactions on the body and intellectual activities, and the environment.

THE EMOTIONS AND THEIR ASSOCIATED BODILY AND INTELLECTUAL STATES.

Emotional activity as met with in man and the lower animals is associated primarily with mechanisms essential for the preservation of the animal and the species. It forms an integral part of such mechanisms, and traces of emotional activity, or rather indications of such activity, are to be found throughout the whole of the animal and vegetable kingdoms. Such mechanisms form the different instinctive activities, and a study of the emotions necessarily implies an inquisition into the instincts.

McDougall has pointed out that the ideal or primary instinct presents three aspects for consideration: perceptive or afferent, emotional or affective, conative or efferent. A mouse sees a cat; it is affected with the emotion of fear, and it relieves this affect by flight, the conative associate of the emotion of fear. From a study of the behaviour of different animals, McDougall describes seven primary instinctive activities:—

The emotion of fear, associated with the conative manifest flight

„	disgust	„	„	„	avoidance
„	anger	„	„	„	fighting
„	self-depreciation	„	„	„	self-abasement
„	self-appreciation	„	„	„	self-aggrandizement
„	wonder	„	„	„	investigation
„	tenderness	„	„	„	protection

Much work has been done lately in working out the relations of these different instincts to each other and to various forms of mental and bodily work, and in a book recently published by Dreyer other instinctive activities are described and their importance emphasized from the standpoint of sociology. But it is necessary to realize that,

event of there being any impediment to this association, symptoms indicative of maladaptation to the environment arise. Such symptoms reproduce to a certain extent the emotion concerned and the somatic manifestations of the conative activity impeded.

4. The prolonged concentration of consciousness upon any region of the body in an atmosphere of dread is associated with a general elevation of the blood-pressure and vasomotor asthenia in the region concerned.

5. The occurrence of similar incidents at short intervals of time in emotional-tone atmospheres similar in kind but of progressively decreasing control, is associated with an absence of consciousness for the earlier occurrences, and the late occurrence is 'remembered' at the expense of the early.

6. Certain functional nervous disorders are essentially, others secondarily, associated with defective control of the emotions as a whole.

from the point of view of medicine, the multiplication and differentiation of instinctive activities, however useful from the standpoint of sociology, may be, and very often is, undesirable, as tending to complicate issues already far from simple. What must be realized is that man, like all other animals, reacts to his surroundings in a perfectly definite and systematic manner, and that such reactions are the outcome of afferent, affective, and efferent impulses.

Writers on social psychology for the most part agree that in man the primary instincts do not occur as separate and independent reactions; there is a tendency for one to combine with another or with many; they 'fuse' with each other, and their efferent aspects become altered as a result. The 'driving power' of one may be removed from the affect ideally associated with it, and may become associated with other affects and percepts. All this no doubt is true; there is also no doubt that the peculiarly multiple reactive power characteristically associated with man is bound up with this power of combination and 'sublimation' (to use a Freudian term) among the different instincts. But unfortunately we are often inclined to think that the reverse also holds good, and that among the lower animals the instincts are to be observed in a purer and purer form as we pass down the scale of evolution; that they are, in other words, really independent of each other, and psychical elements. This is emphatically not the case, and the idea is the outcome of a wrong conception of the instincts and their origin. The different instinctive activities, as described by McDougall, should be looked upon as so many surface manifestations of one essential attribute possessed by all living tissue, both animal and vegetable. The attribute in question is just as much a function of protoplasm as reproduction and excretion, and discussions as to its nature and origin are properly dealt with by writers on Final Causes. This essential attribute is the power possessed by all protoplasm of adapting itself to its surroundings, and the instincts met with among the lower animals and man are simply manifestations of this power as developed in the surroundings associated with the organism concerned. It may be emphasized here that in its widest sense this essential attribute is also manifested by such physical properties of protoplasm as excretion, respiration, and so forth; but for present purposes we may take it as being represented by morphological changes of the organism as an individual in association with physical alterations in the immediate (physical) surroundings. In this restricted sense the function in question is manifested throughout the animal and vegetable kingdoms by the behaviour of animals and plants in their varying surroundings: by instinctive behaviour. Owing to the fact that life on this planet is subjected broadly to the same conditions of environment, instinctive activity for its different

forms is manifested in the main by similar behaviour; the instincts of one animal being discernible in those of another, however far removed they may be from each other in the scale of evolution; such differences as there are being associated with minor variations in their surroundings. Logically it is impossible to say that the instincts as met with to-day are due to this attribute of adaptability to surroundings as modified by surroundings, any more than it is possible to say that they are the result of the surroundings as modified by the attribute under discussion. The two are essential associates, bearing much the same relation to each other as do the shape of a jelly to the substance used and the mould employed.

It may be of advantage to discuss for a moment the adaptability to its surroundings manifested by an organism such as the amœba. Broadly, such adaptability is shown in one of three ways at any one time: the organism may remove itself from its immediate surroundings in association with a variation in them; it may modify its surroundings by means of its own vitality; or it may undergo a morphological alteration, encystment, protrusion of pseudopodia, fission, in association with such alteration. Such responses fall into two groups, according as the protozoon abandons the altered environment or remains in association with it. We can thus distinguish two phases of this one function of adaptability, associated with the superiority or inferiority respectively of the organism to its surroundings. In order to avoid the use of words which have an implied as well as an explicit meaning, let us call these phases 'centripetal' and 'centrifugal' respectively. In the case of the amœba, then, we can classify its manifestations of the function of adaptability to environment in the following manner:—

<i>Centripetal.</i>	<i>Centrifugal.</i>
1. Ingestion of particles that have made their appearance in the environment	1. Bodily removal of the organism from offensive surroundings
2. Multiplication of the organism	2. Encystment

In the course of evolution, the manifestations of this function vary as the behaviour of the animal becomes more and more highly organized, until, as described by McDougall, seven more or less specific forms of activity are capable of differentiation. But, from the standpoint of clinical medicine, such differentiation is of subsidiary importance, the central fact being that the property of adaptability to environment inherent in all living organisms is manifested by them by means of behaviour which is either centripetal or centrifugal.

With each and every manifestation of this nature, and in response to the influence, malign or otherwise as the case may be, exerted

by the environment, there is a state of the protoplasm, not visible outwardly, corresponding to the particular manifestation evoked. The nature of this protoplasmic state is not material to the discussion; it may be likened to the gradual alteration a non-vital substance undergoes towards the modification of a physico-chemical affinity by such an agent as heat when being heated through a subliminal range of temperatures. The important point to realize is that such a protoplasmic state does occur, and that it is in existence, though probably in subliminal intensity, before the actual visible response of the organism to the environment takes place. This 'pre-visible' protoplasmic phase is analogous to the emotional or 'affective' aspect of the more highly evolved instinctive activity.

On the assumption that the physical response of the organism is the proper associate of the properly developed protoplasmic state (whether quantitative or qualitative), then the more rapidly and completely the organism can develop this state in requisite intensity, the more adaptable will it be to its surroundings, and vice versa. For the present we may refer to this aspect of the function of adaptability as the 'pre-conative' state of the organism. A pre-conative state that is developed imperfectly in quantity or quality will be obliterated in the course of time from the community of amœbæ, in that it results or is associated with incomplete adaptability to the environment. Natural selection tends to the development of a pre-conative state that is brought into being quickly and developed quickly and completely, as long as the organism is wholly dependent upon itself for its preservation.

If this pre-conative state be considered rather more in detail, we see that it is associated with environmental change exactly as is the visible phase, whether this is centripetal or centrifugal. The action of natural selection is in the direction of making the pre-conative and conative phases appropriate to the change in the surroundings: the more rapid and intense the alteration in the environment, the quicker is the pre-conative aspect passed through and the more complete is the resulting conation. That is to say, at any one moment the properly constituted protozoon manifests a correct adjustment to its environment, although this may not be conative in the sense of being visible, but only recognizable from the fact that it is succeeded by appropriate visible conation.

The condition of affairs may be compared to a physico-chemical system independent of vitality in the ordinary sense of the term; such a system as is represented by starch, an iodate, and a sulphite. Such a system for a short period of time apparently remains quiescent; the mixture during this time is clear. At the end of the period there is a liberation of iodine which immediately colours the starch blue.

It would be as wrong to deny the occurrence of some protoplasmic alteration to the protozoon in the pre-conative stage as it would be to deny the occurrence of definite physical changes in the mixture before the liberation of the iodine and the coloration of the starch. It is obvious that, in the physico-chemical system, during the period of apparent quiescence there is complete accord with the environment; the state of affairs in the mixture when half-way through the first phase differs from the initial state and from the end state, and the difference is accurately determined by the condition of the system, intrinsic and extrinsic. At all stages of the first phase, or the stage of apparent quiescence, there is this strict accordance between the changes occurring in the mixture and the surroundings, used in the widest sense.

The same applies to the protozoon; in the pre-conative state there is an equally strict accordance between the state of the protoplasm at any one time and the environment. In the event of the environment changing with a rapidity and an intensity that are extreme, then the organism is killed, and even then shows its harmony with its surroundings. In other words, the pre-conative state, in the protoplasm-environment system, is in harmony with the conditions of that system in that it is a manifestation of a protoplasmic function; it is in accord with the environment. It was stated above that this pre-conative state was the precursor, analogue, or forerunner of the emotions as met with in the metazoa, and in so far as it is, we may say that the emotional tone in existence at any one time, and its intensity, in the case of the evolved animal, is a direct manifestation of the harmony which exists between that animal and its surroundings at that time.

This conclusion is of interest, for it would appear to be directly opposed to that arrived at by Janet, who defined emotion as "the reaction of inadaptability to the environment". The definition arising out of the above argument is that emotions are 'reactions of adaptability to the surroundings'. It is probable that the difference between these two statements may be one rather of appearance than of reality, and may depend upon the standpoint from which the emotional tone is regarded. In an animal such as man, an emotional tone may be looked upon from a personal side and from a biological. In the evolution of a reaction of adaptability of the centrifugal variety, associations are formed with the environment associated with it; and inasmuch as these, through the ages, have been such as are fraught with potential injury to the organism, in the evolution of the animal and the formation of self-consciousness there is an association of harmfulness with the rise into consciousness of a centrifugal emotional tone, and this gives with that tone a conscious feeling of impending

danger, or discomfort, or 'unhappiness' to the animal in question. But this feeling of discomfort, though to the animal itself it may make him feel out of tune with his surroundings, from a biological point of view is an index of his fitness in those surroundings; from this standpoint, in such surroundings, he ought to feel uncomfortable: he would be abnormal if he did not, and would run the risk of extermination.* The question is closely interwoven with teleological determination: in man, from experience, there is a forecasting of what may conceivably occur when such a feeling tone is aroused; biologically such a forecasting is unjustified; if the tone is of requisite intensity the animal will adapt himself with the requisite speed and completeness to the environment in existence. Properly developed emotional tones certainly may be associated with distress to the animal, but an emotional tone only becomes a reaction of inadaptability when through some abnormality it does not react with proper speed and completeness in association with environmental alteration, and is not associated with the distress proper to the situation. The whole of the question is of interest and importance, and it may be admissible to dwell upon it a little longer, and to summarize what has been mentioned above.

Certain concrete manifestations in such lowly organized animals as the protozoa foreshadow emotional tones and intensities as met with in such highly evolved animals as man. Thus, positive and negative chemotaxis may be looked upon as the concrete basis of such emotional tones, the organism changing its surroundings in accordance with their alterations; sporulation and encystment may also be regarded in the same light, the organism changing itself structurally as the environment changes. Harmony and discord may be assumed to exist according as to whether the resulting change on the part of the organism is or is not in accordance with the alteration in the environment. That is, a micro-organism in harmony with surroundings A, would be in a state of discord in surroundings B; its spore would be in harmony with B and in discord with A. The process of adaptation in each case is of the nature of a time reaction, and each phase of the changing environment is in strict accord with

* It is probable that the crux of the argument is associated with the conception of the surroundings: according as to whether these are considered from the standpoint of the limited, purely local aspect of the physical environment in existence at any one time, or the broader one of the general surroundings in which the animal spends its life, or in which its species evolves. The recognition on the part of the animal of hostility from the standpoint of the immediate environment by the development of a centrifugal emotional tone carries with it two implications: the potential danger of these limited surroundings (the aspect from which Janet considers the emotional tones), and its fitness to live and to survive in the general environment in which it has to spend its life.

an associated phase on the part of the organism, and is in harmony with the organism. If, through some inherent abnormality, the phases of the organism 'hang fire' or progress too quickly, then there is discord; but the inherent abnormality, taken in conjunction with the discord and the altering surroundings, makes up a harmonious system. We have, then, in these protoplasmic manifestations, the elements of harmony and discord, qualitative, and variations in intensity, quantitative. In the phenomena of chemotaxis we have the elements of centripetal and centrifugal variation on the part of the organism in association with its environment.

It is not wise to look upon the specific emotional activities apparent in man and other animals as anything more than tones of the above processes; they are not elemental; and whereas the underlying processes are recognizable as such throughout the whole of the animal kingdom and are unvarying, their manifestations as the specific primary instinctive activities by the higher forms of animal life are capable of considerable variation even among members of the same species. The essential fact to remember is that there is a driving force inherent in all protoplasm, which manifests itself centripetally or centrifugally in varying intensities, and that, as a result of such manifestations, the organism is in harmony with its surroundings. If in any way the driving force be defective, then the organism is liable to be put in a position of temporary discord; temporary, because it succumbs to its environment as a result. The separation of such emotional tones as fear, repugnance, positive and negative self-feeling, is recent; the centripetality and centrifugality of such tones are ancient, and are to be recognized in all living protoplasm; they are not specifically human or mammalian characteristics.

Since the functioning of these activities in the proper manner is associated with the health of the animal and the well-being of the race, they come to be associated in the higher animals with a psychical tone which may be called 'want'; and just as the concrete conative activity may be said to have determined this feeling of want, so the feeling in time reinforces the conative activity.

At the same time, the psychical element or aspect of the instinctive activity cannot be considered as something different and distinct from the conative; the two bear much the same relation as the surface of a solid to the solid as a whole; and inasmuch as the psychical tone is so closely linked with the appropriate conation, it is easily seen how false a position an animal is in if, for any reason, in the presence of this psychical tone the properly associated conative activity is checked or in any way impeded. It is of all factors the most destructive to the proper functioning of the nervous system. It is perhaps unfortunate that the terms 'pleasure' and 'pain' have come to be

used to denote the mental attitude of the higher animals when, in the presence of an emotional tone, the appropriate conative activity is or is not developed. It would be well to describe the animal under such conditions as being in the 'x' or 'y' state respectively; there is thus less danger of begging the issues. An animal, then, is in the 'x' state when, in obedience to alterations in its surroundings, it changes its relationship to those surroundings, and in the 'y' state when, under similar conditions, it does not. Inasmuch as these states are antagonistic, from the very fact that a change of surroundings is antagonistic to a non-change, an alteration of relationships to their non-alteration, we have here the basis of what has come to be known as '*conflict*'.*

Conflict is at the root of most of the emotional disturbances of the more highly organized animals, but it is not so much determined by the inter-reaction of opposed emotional tones as by that of the environment obtaining upon the tone dominant. Inasmuch as any condition of environment of necessity postulates another condition, we arrive at the principle with which the evolution of mental activity is associated: the instincts and their emotional content are manifestations of a primitive protoplasmic property by means of which living matter adapts itself to its surroundings.

In the course of time animals that do not respond properly to their emotions are deleted from the scheme of evolution; the prevailing animal is thus tuned to the implicit obedience of its emotional tones, and in so far as it is so tuned, such obedience is the path of least resistance for that animal in the presence of an emotional tone. If conditions arise in which such obedience is not possible, then behaviour has to be modified along paths to which the animal

* As far as the functional nervous disorders of the human are concerned, the operation of conflict would appear to have developed with the rise into activity of the instinct of the herd. In reality, of course, the basis of such conflict remains the same as mentioned above, the herd instinct serving as the mechanism which precipitates it. The effects on the organism of such conflict is undoubtedly reinforced by the opposing trends of the two instincts at work, but these trends are not in themselves incompatible with the preservation of mental quietude apart from the maladaptation to the environment with which they may be associated.

The question is one of importance, as indicating the potency of the environmental factor in the conception of conflict. Suppose, as an example, the case of a man who eagerly wishes to pursue a certain line of conduct which is opposed to the dictates of the herd. In the event of his following that line he may ensure mental peace, or he may be unhappy. But the peace and the unhappiness would both be associated with the environment obtaining; in the one case it is in accord with the dominant emotional tone, in the other it is not (whatever it may have been at the time of executing the conduct in question). The point is that the absence or presence of conflict is not associated with the opposition of two emotional tones exclusively, but rather with the associated environment with one of them.

concerned is unaccustomed, and the associated state of mind is 'strange' to that animal. Also, the animal now is in a situation in which it is easily injured, so that, should it survive, this feeling of strangeness when subsequently encountered is associated with one of discomfort. As this may be perpetuated, then nonconformity to an emotional tone becomes coloured by the added feeling of distress, and, by contrast, obedience comes to be associated with pleasure (or rather, the association with obedience—the 'x' state, that is—comes to be recognized as pleasure). But if, to be paradoxical, we can imagine that an animal found at one time that by disobeying its emotional call the result worked out for the benefit of itself and its progeny, then the associated colour-tone of such disobedience would become pleasurable and the obedience emotion-tone distressful. Pleasure and pain are the associates of any state of mind which, as judged by the test of evolution, have been found to occur in surroundings which are or are not safe for the animal and its interests. In this way we see that such mental colouring has been attached to certain acts which in themselves have proved to have been useful to the organism.

The division of the different instinctive activities in man into centripetal and centrifugal groups respectively is one of the utmost importance from the standpoint of clinical medicine, and a recognition of this division is the key to the understanding of the different functional nervous disorders. Members of the one group differ from those of the other, not only in their end-results, but also in the way by which such end-results are attained; the after-effects upon the individual are different in the two cases, and these statements hold not only in the case of man, but throughout the whole of the animal kingdom also.

The emotion of tenderness in the instinctive activity of reproduction, and that of fear in the instinct of flight, may be taken as representative types of the centripetal and centrifugal groups respectively. The two may be considered from the following points of view: (1) Inception; (2) Mental state of the animal under the influence of the emotion; (3) Associated somatic manifestations; (4) Re-induction of the emotional tone; (5) State of the animal in the intervals between the subsidence of the emotion and its re-induction.

Centrifugal Emotional Tone.—

1. *Inception.*—The rise into consciousness of the emotion of fear is immediate, and the intensity of the emotional tone attains its maximum almost as quickly. The intensity shows a tendency to vary from moment to moment in the direction of a diminution, provided the animal after its initial fright be given freedom of efficient behaviour.

If, after the initial fright, a series of terrifying events be made to occur at short intervals of time, the maximum tends to be reproduced on each occasion, provided such events are not of the same type in each case.

The rapidity with which the maximum is attained and re-attained is of interest; it indicates under such circumstances that the emotion in its maximum intensity is of brief duration. It must be emphasized that the above remarks apply to carefully induced instinctive fright, and not to mere alarm or startling of the animal.

2. *Mental State of the Animal under the Influence of the Emotion.*—Typically this is one of confusion as far as the emotion of fear is concerned, and this confusion may be extreme. An animal under the influence of fear in its maximum intensity is in a condition approaching to complete negation of its intellectual faculties; under certain circumstances a semi-comatose state may supervene.

3. *Associated Somatic Manifestations.*—These are to be seen most characteristically in the instinctive activity of flight, but they are common to a great extent to all the members of the centrifugal group. For the most part they are associated with the activity of the sympathetic nervous system, and subserve the efficient removal of the animal from its immediate surroundings. Inert substances are removed from the body; there is increased muscular activity, a redistribution of blood in the body so that the parts of the animal directly concerned in the removal are ensured an efficient blood-supply. Cannon, who established the somatic phenomena in certain emotional states on an exact basis,* also demonstrates the fact that the blood undergoes certain qualitative changes which adapt the body to prolonged muscular exertion and which enable it to cope with such wounds as it may have received.

4. *Re-induction of the Emotion.*—In the case of instinctive activities of the centrifugal order, the emotion and the associated somatic manifestations are capable of re-induction at any time and in unimpaired intensity. There is no tendency for the emotional intensity to fade with constant induction.

5. *State of the Animal in the Intervals between the Subsidence of the Emotion and its Re-induction.*†—In the case of the centrifugal group

* *Bodily Changes in Pain, Hunger, Fear, and Rage*, Appleton and Co., 1915.

† A certain reservation must be made here in connection with the instinct of curiosity; the incidence and intensity of a centrifugal emotional tone being especially violent when preceded by the incidence of the curiosity-instinct.

The instinct of curiosity will be dealt with shortly; in many ways it is quite peculiar, and it cannot properly be said to belong either to the centrifugal or the centripetal groups. It may for the present be considered as a 'sensitizing' or preparatory state of the animal, rendering it particularly susceptible to the development of a centrifugal emotional tone in maximum intensity, or to the formation of familiarity. This latter rôle will be dealt with later.

the occurrence of the emotion is sudden and unexpected, and the more unexpected the occurrence the more violent is the reaction.

Centripetal Emotional Tone.—

If now the emotion of tenderness, in the instinctive activity of reproduction, be considered as the type of a centripetal emotional tone under the above heads, a very striking contrast is observable.

1. *Inception.*—The rise into consciousness of a centripetal emotional tone differs from that of a centrifugal in the absence of suddenness; it also differs from the latter in that its maximum intensity is maintained for some considerable time. The intensity of the centripetal emotional tone does not diminish immediately after its inception; if anything, the maximum is not attained for an appreciable time after its inception. The emotional tone has a very much longer duration than that in the case of the centrifugal variety.

2. *The Associated Mental State*, so far from being one of confusion, is one of intense concentration upon a definite object, and this concentration in no way prevents concentration upon other concurrent events occurring in the environment. In the course of time not only the object, but the associations of that object, become subjected to this concentration.

3. *The Associated Somatic Manifestations* precede the rise into consciousness of the emotion, and in the higher animals the interval may be one of weeks or of months. The animal, of course, need not be in any way conscious of these body changes. In many cases the somatic changes are definite gross structural alterations.

4. *Re-induction of the Emotion.*—A most important difference between the two groups is to be seen in the re-inducibility of the emotional tone. Whereas in the centrifugal group this is irregularly intermittent, capable of induction again and again at any time in maximum intensity, in the centripetal, after the attainment of the maximum, there is a gradual and progressive fading until the original object of the emotion (in the case of animals other than human) no longer excites it at all, and never again excites it.*

5. *State of the Animal in the Intervals.*—In the case of the centrifugal emotional tones the onset is sudden and unexpected, the animal in the intervals of freedom being 'normal'; in the case of the centripetal it is never sudden; it is, on the other hand, anticipated and

* The increased associational power in the case of the human militates against the fading of the emotional tone as far as the direct object of such a tone in the instinct of reproduction is concerned. Apart from the tenderness felt for the offspring, however, even in man the tendency to fade of this tone is well marked, and once it has faded it is not revived for the same object.

prepared for, and the more the expectation, the more quickly is the emotional tone raised to its maximum after its inception.

The differences between the emotional tones of the two groups are well illustrated by the domestic fowl.

If the bird be badly frightened, it makes a wild blind spring, such intellectual faculties as it possesses being completely in abeyance. This is well seen if the bird, prior to its fright, has been in a situation demanding a certain degree of judgement as regards its alteration. Supposing, for instance, it has been on the top of a wall, at the bottom of which there is a pond; it may have spent a considerable time in attempting to leave the wall, being deterred, and rightly deterred, by the risk of falling into the water. If it be sufficiently terrified, all questions requiring judgement are abandoned; the animal is confused under the intensity of the centrifugal emotional tone aroused, makes a spring, and quite likely falls into the water. If the terrifying factor be not sufficient at once to put the bird to flight by itself it will never be effective in this way, but will require reinforcement. At its inception, in other words, the emotional tone is maximal for that particular setting.* Once the bird has satisfactorily altered its environment the emotion disappears, but it is capable of reproduction in precisely the same intensity at any time. Immediately before the excitation of the emotion, the animal, somatically speaking, is normal.

Now take the case of the same fowl demonstrating the tender instinct. A period of egg-laying, followed by one of 'broodiness', during which ovulation ceases, are necessary precursors; the ordinary non-broody hen will not demonstrate the emotion. As far as the hen is concerned, there is no specificity; for it often enough happens that a fowl, incubating a mixed clutch of eggs and hatching them, evinces the maternal instinct for chicks that are not her own, and savagely attacks those of an adjacent flock, composed largely of her own progeny, that she thinks to be intruding on her privacy.

The emotion of tenderness, powerful as it is at the time, has very definite limitations as far as duration is concerned; in the course of time—and the period is more or less definite in the case of the lower animals—it wanes and ultimately disappears, never again to be revived for the chicks in question, not indeed to be revived in any form until the preliminary somatic changes have been gone through again. In the case of the hen the feeling of tenderness appears to be replaced by one of irritation for a time; in the case of the higher animals the centripetal emotional tone gives way to familiarity.

* This, of course, is taking the emotional tone produced by the factor of fright as the only determinant of the bird's action; there may be other elements present which may obscure the issue in actual practice.

A study of the hen during the period of intensity of the tender emotion shows that instead of there being any mental confusion there is a high degree of concentration, for the chicks primarily, but also for environmental factors associated with them. The mother-bird under the influence of this emotion may be said to have little or no 'personal' life at all; her whole intelligence is concentrated upon her offspring and the external details which affect them. In the case of many animals the apparent intelligence developed at these times is great; very considerable ingenuity may be displayed on behalf of their young which is certainly not manifest at other times.*

In addition to these obvious differences between members of the centrifugal and centripetal groups, there is an important associated psychical difference; members of the former group are associated with the phenomenon of what has come to be called 'psychical dissociation', whereas those of the latter are not. When this phenomenon comes to be considered in detail, it will be found intimately associated with the principles differentiating the two groups.

It cannot be too strongly emphasized that, for the purposes of clinical medicine, instinctive activities are not to be looked upon as, say, seven in number, however accurate this enumeration may be from the standpoint of sociology. For our purposes such activities are more or less recent and superficial developments of one essential driving force, the power of adaptability possessed by all living matter, manifested physically in one or the other of two aspects, centrifugal and centripetal.

The centripetal aspect of this power of adaptability is associated with a considerable prodromal period in which there are definite and specific body alterations, quantitative and qualitative; its inception is gradual, and its maximum intensity takes an appreciable time to develop; when developed it is maintained; it fades gradually, and is replaced in the course of time by familiarity. During the period of its persistence the mental state of the animal is one of concentration.

On the other hand, members of the centrifugal manifest of this power are of sudden inception without any necessary precedent body changes; the intensity attains a maximum immediately, and is of brief duration; fading of the intensity is rapid, given that the animal

*The question may perhaps be asked here as to the determinants of the emotion of tenderness in the male parent. Most will concede the truth of the statement that the tender instinct in the male in no way compares with that in the female as far as intensity is concerned; the changes that the male undergoes in structure and behaviour at the rutting season in certain species supports the idea that in him, as in the female, the instinct in question is associated with precedent body changes. There seems to be some evidence that even in man there is a sexual periodicity.

has freedom of efficient behaviour; familiarity is never developed in its association. The manifest of this aspect is always capable of induction at any time in maximum intensity; the associated mental state is one of confusion.

These two aspects of the power of adaptability, of instinctive activity, possess absolute importance in the formation of certain functional nerve disorders; an associate of one of them is an essential associate of another large class of these disorders. The specific, recently developed instinctive activities—the facets, so to speak, of the diamond—arising as one of the results of the association between the environment and this function of adaptability, have no such absolute importance, and are of minor value to the clinician.

Philosophical speculations have no direct value from the standpoint of practical medicine, and problems of final causes do not properly belong to the sphere of this discussion. At the same time it may be emphasized that nothing in the foregoing argument necessarily indicates that the ‘individuality’ of an animal is merely the mechanical resultant of an interaction between the power of adaptability manifested by it to its surroundings and the environment in which it is so manifested. A ‘personal striving’ element behind the power of adaptability cannot be excluded; in the lowest forms of life this element may be exceedingly ‘small’, such forms approaching as far as their individuality is concerned the ‘mechanical resultant type’. But this insignificant element in the lower forms may quite possibly possess a significant value by virtue of its potentiality among the higher forms, in which a personal striving independent of the external environment cannot, it seems to me, be dismissed as impossible.

An absolute value cannot be ascribed to the theory of pangenesis, but a very important relative value can, and it is from this point of view that we can recognize its utility in discussing the factors operative in the formation of the various functional nervous disorders.*

THE SEVEN PRIMARY INSTINCTS OF McDOUGALL FROM THE STANDPOINT OF CLINICAL MEDICINE.

The grouping of these instinctive activities under the scheme suggested above is of interest, and is of value in that it brings this scheme into intimate relation to everyday human behaviour.

The self-regarding instincts, positive and negative, are specific representations of the centripetal and centrifugal orders respectively. In so far as they indicate the dominance of either of these groups they are of importance, but they have no intrinsic value apart from

* A. F. C.

such indication. They are valuable in that they serve as 'group indicators'; if there is any doubt as to the particular group, centripetal or centrifugal, to which an emotional tone belongs, the presence of one or the other of the self-feeling tones decides the question. A thoroughly terrified animal cannot be considered as self-assertive; such an animal must be looked upon as centrifugally adapted at the time; and the converse holds for animals under the sway of the tender emotion in the atmosphere of reproduction. As specific individual manifestations the self-regarding tones have little importance for clinical medicine, but as outward and visible evidence of such an animal's state of adaptation they have all the importance of the centripetal and centrifugal groups respectively.

It will be seen later that, as far as the human being is concerned, the self-feeling tones develop in the environment of upbringing in association with the dominance of the influences, centripetal or centrifugal, that have been brought to bear upon the child in his early years, and the same of course is constantly to be seen in animals other than human. The puppy that is brought up in an atmosphere of punishment and harsh discipline becomes the dog whose behaviour generally is that of self-abasement—the dog which is 'centrifugally determined'. But such abasement has no value to the clinician in itself; it is merely an indicator of the dominance of centrifugal emotional tones arising out of a centrifugally determined environment of upbringing.

Disgust and terror are obviously manifestations of the centrifugal group of emotional tones. The emotion of tenderness equally obviously arises out of the centripetal.

The impulse to fight under the emotion of anger, and to investigate under that of wonder, occupy exceptional positions in this scheme. The former is best described as a 'derived' activity, and as requiring for its development the co-existence of another emotional tone.* For the most part anger is developed in association with centripetal emotional tones, and as far as clinical medicine is concerned it always is found, when operating as a factor in the production of a functional nervous disorder, in a centripetal setting. It occurs in the sphere of such a tone when the object of interest is endangered, or runs the risk of being injured; when, in other words, there is danger of the centripetal tone being rendered inoperative through some external agency. The existence of a centripetal tone would appear to sensitize the animal to the incidence of anger; under such circumstances in certain cases the anger-pugnacity instinct seems to replace the fear-flight

* This does not of course imply that the anger-pugnacity instinct is not 'primary' in the sense used by McDougall.

manifestation. For the development of anger and its associates, not only is a centripetal emotional tone required, but that tone must in some way be threatened. As regards the centrifugal tones, it would seem at first sight as though they played an exactly similar rôle; the terrified animal, running away and not succeeding in evading its hunter, turns at bay and fights. But it would be better to look upon such fighting as an exceptional extension of flight associated with an overwhelming increase in the intensity of the emotion of fear as the pursuer approaches; the intensity of the fear and the accompanying mental confusion militating against the development of true anger. Certainly the body movements of fighting may in certain cases of this kind re-induce an emotional tone of anger; but such a tone would be of feeble intensity and in no way comparable to that found in impeded centripetal tones. Anger therefore, a derived emotional tone, is usually developed in the centripetal atmosphere, and this is confirmed in an interesting way by certain clinical considerations as far as man is concerned. It will be seen later that a small group of functional nervous disorders is intimately associated with the anger-pugnacity instinct, and that such cases are always found in a centripetal setting, and conform to the centripetal type of the sympathetic neuroses.

The instinct to investigate, with its emotional aspect of wonder, is not so much a derived as a prodromal state. An animal under the influence of this emotion is one which is specially sensitized to the incidence of a centrifugal emotional tone, and, equally, to the subsidence of all emotional activity, with the resulting formation of familiarity.* It has already been seen that, with the natural fading of a centripetal emotional tone, there is a replacement by familiarity; this, however, is a matter of time, and in some cases of considerable time, and the instinct of curiosity provides a mechanism for the speedy and convenient development of this state. But apart from this aspect, the instinct of curiosity possesses value in that, under its influence, the animal is capable of developing fear in maximum intensity in a minimum of time, and of putting into immediate execution movements of efficient flight. Hence the great importance that this instinct has for an animal; through its operation, for example, a strange environment is assessed as to its content of danger or the reverse. Owing to the potentiality of danger inherent in any strange environment, the immediate development in maximum intensity

* An animal may be said to manifest familiarity in an environment when, and as long as, such an environment is not associated with the development of any emotional tone. Such a state is one of the end-results of centripetal emotional tones; a frequent outcome of the wonder . . . investigation instinct; it is never associated with emotional tones of the centrifugal order.

of fear, and the correspondingly immediate inception of vigorous flight, may be, and often is, essential for the animal. On the other hand, the prompt subsidence of emotional activity in the event of the surroundings proving harmless, and the formation of familiarity, is equally necessary for its everyday life. We may then summarize the instinct of curiosity by saying that essentially it is neither centrifugal nor centripetal, but a premonitory sensitizing state of the animal developed in any environment that is strange, and conducive to efficient flight on the one hand in the event of danger, and the formation of familiarity on the other if no such danger exist.

The differences between centripetal and centrifugal emotional-tone manifestations are radical, and are to be seen throughout the whole scale of animal life. Some of them, the more 'obvious', have already been mentioned—differences as regards inception, the mental state of the animal under the influence of the emotion, associated somatic manifestations, re-induction of the emotional tone, and the state of the animal in the intervals between the subsidence of the emotion and its re-induction—and the point may now be raised as to whether it is possible to refer these differences to the presence or absence of any one factor. The answer must be that it is so possible; not that the factor in question is the 'cause' of centrifugality, or that its absence is the 'cause' of centripetality, but that it is an essential associate of the former, whereas its absence is an equally essential characteristic of the latter. The factor in question is that known as 'psychical dissociation'; centrifugal emotional tones are associated with psychical dissociation, whereas the centripetal are not.

The possible mechanism of psychical dissociation will be dealt with in a subsequent discussion, but here it may be said that an intimate associate of its operation is the non-memorization of the incident responsible for the development of a centrifugal emotional tone, and the perpetuation (in the sense of increasingly facile performance in similar circumstances, should such circumstances again arise) of the somatic associations appropriate to that incident in those circumstances. That is, there is amnesia for the central incident and increased facility of performance of appropriate somatic action. It is to this amnesia that the immediate development of a centrifugal emotional tone in maximum intensity is due, and the fact that such development is possible at any time is an integral part of the same system. In the system of centrifugal emotional tones, a terrifying object is always associated with fear in maximum intensity, because, owing to the amnesia that has been operative on all previous occasions when it has been encountered, the animal always encounters it *de novo*.

But the frequency with which the animal encounters the fear-laden object is an index of the efficiency of the associated body

behaviour on each occasion; inefficient behaviour being associated with disaster. It is not that the animal 'remembers' these responses; it means that the associated nervous mechanisms are always and immediately available for their performance, thus differing from that part of the mechanism ideally affected by the central object, which, amnesia having occurred, is never so available. The animal in this way perfects its behaviour by experience, and it is of interest to notice that this mechanism, inherent in emotional tones of the centrifugal order, affords a means by which individual animals may learn and benefit by their mistakes, provided these are not sufficiently gross to lead to their prompt destruction. Take the case of a terrified animal running away from a pursuer; in the event of its flight being faulty it may be caught and destroyed, but given that the error be not sufficiently gross, then it may ultimately escape. At the time of occurrence of the error, with the imminence of the disaster there is an exacerbation of the intensity of the fear; certain somatic movements are performed, and the animal escapes and survives. These somatic movements are performed with increased facility given that the same emotional tone be again encountered; the psychical dissociation operative militating against 'remembrance' of the particular incident, just as it favours the facilitation of the behaviour that proved itself to be efficient when an emotional tone of similar intensity was experienced on a previous occasion. We may summarize this by saying that the facility of performance of certain movements, the intensity of the centrifugal emotional tone in being at the time, and the absence of memorization of the central incident responsible, are all directly proportional. (In the non-human animals the absence of emotional control would render it probable that centrifugal emotional tones are always associated with complete dissociation.)

The same element of psychical dissociation is found in the case of anger. As already indicated, this emotion is mainly encountered in a centripetal setting, but it is itself in this respect (its association with psychical dissociation) allied to tones of the centrifugal order. It is capable of development in maximum intensity at any time, and it is never associated with the formation of familiarity; on the other hand, its operations conduce to the modification of behaviour by experience. If we imagine the case of a carnivorous animal leaping upon its prey and the leap being defective, then, at the moment of appreciation of the defect, there is an exacerbation of anger and the performance of movements calculated to rectify the error, which movements are perpetuated in association with the emotional intensity, the central incident being dissociated. Even in the event of the objective ultimately escaping, still these movements serve the hunting animal in good stead, for on subsequent occasions the perpetuation

that has taken place renders efficiency of action under similar circumstances more probable.

Centripetal emotional tones are not associated with any dissociation mechanism, and it is probable that the lengthy preparation which the animal undergoes before the emotion becomes operative is an integral factor in this absence. In mammalia other than man, the developed emotional tone of parental tenderness would indeed appear to owe many of its characteristics to specific structural body developments, rather than to visualization of the offspring, for example, in their absence; and in any case such somatic developments would effectively militate against the operation of any dissociation mechanism. It need hardly be said, of course, that such absence of psychical dissociation does not necessarily imply, in the non-human animals, that conscious 'memorization' exists; we can hardly imagine the cat as consciously remembering its kittens in their absence; it returns to them under the influence of an emotional tone determined by, or associated with, the activity of certain organs which are specifically associated with its kittens; these latter may indeed be looked upon as ectopic parts of such organs. At the same time there is nothing to prevent conscious memorization, were the cat to be associated with the necessary cerebral associational structure; there is no mechanism inherent in the emotional tone which specifically prevents such memorization.

The constant encountering of an object associated primarily with a centripetal emotional tone, with a tone that is not associated with the operation of psychical dissociation, ends in the fading of that tone and the development of familiarity for that object. The importance of familiarity to an animal can hardly be exaggerated. We have only to imagine the life of an animal to whom familiarity is unknown to realize how impossible the resulting state of affairs would be. In every place and at every time all objects in the environment would be associated with an emotional tone and would have to be assessed as to their content of danger or otherwise before the animal could proceed on its business; and the moment the attention was diverted from the object investigated, in the absence of familiarity that object again becomes a possible source of danger and requires re-investigation.

Emotional tones of the centripetal order are associated with the formation of familiarity as one of their end-results, but the familiarity so formed is more or less specific, and is developed for the primary objects of the emotion. It would, moreover, be impossible for an animal to have to depend upon the fading of such a tone, with its elaborate preparatory mechanism and lengthy duration, for the formation of familiarity for common objects in the environ-

ment; and it is of course in this connection that the prodromal emotion of wonder assumes its value; we may take it that every object encountered by an animal for the first time is associated with an emotional tone, centrifugal, centripetal, or prodromal. In the latter case, in the event of the object having no terrifying attributes and therefore not being provocative of a centrifugal emotional tone, wonder quickly fades, and the object in question, being 'de-emotionalized', becomes familiar to the animal. This familiarity is retained just as long as the object retains its initial appearance; if and when there is any alteration, then that object becomes 'new'; the emotion of wonder arises again, and investigation follows.

If, however, the object investigated proves to be dangerous, the emotion of wonder is immediately replaced by that of fear, and the animal runs away. Under the influence of the centrifugal emotional tone psychical dissociation is operative; when again encountered by that animal, the object recalls no conscious memory, but the somatic associations that were evoked on the former occasion are set in action with increased facility; and flight becomes more and more prompt and efficient.

This increasing facility of somatic response presents two aspects for discussion. Taking it from the emotional side, we may say that the frequent incidence of an emotional tone of constant intensity is associated with a progressive increase (within limits) of the vigour of the somatic movements appropriate to that emotional tone which were performed originally in an atmosphere of psychical dissociation. Taking the same scheme from another aspect, that of the somatic response, postulating constant vigour of such responses, we have as a corollary the fact that they are capable of performance with constant vigour in an emotional-tone atmosphere of progressively decreasing intensity. This fact is the basis of what is known as 'habitual action', and is one of importance from the clinical standpoint.

Habitual action is also to be observed in animals under the influence of centripetal emotional tones, but in all probability it is then associated with the intervention of tones of the centrifugal order. The movements specific to the centripetal atmosphere cannot be considered habitual; with the fading of the tone there is disappearance of the movements; they are not perpetuated in the sense that after the emotion has subsided the somatic responses proper to it persist. But given that these movements have at any time during the domination of the centripetal tone been associated with an inter-current centrifugal tone such as anger, then such modifications may be perpetuated as habitual action. The animal which, returning to its young, has been interfered with, will continue to demonstrate pugnacity towards the interfering agency long after the subsidence of the

centripetal tone; the centripetally determined 'return' movements are never so perpetuated.

The atmosphere of habitual action is always open to disturbance by the occurrence of a centrifugal emotional-tone exacerbation in the manner described above; dissociation thereby occurring with alteration of the somatic reactions.

It will thus be seen that the division of the primitive function of adaptability to the environment manifested by living organisms into the centrifugal and centripetal aspects is deep-rooted and of fundamental importance. The outward and visible signs of these aspects differ acutely; in addition they are associated with a basic psychical reaction—dissociation—in radically different ways. Whereas one is associated with the ultimate formation of familiarity, the other never is; it is concerned with the modification of behaviour by experience and the development of habitual action. The one is intimately associated with precedent and specific body changes; a condition of affairs that does not obtain in the other.

It cannot be said, of course, that precedent body changes are the 'cause' of centripetality, any more than that the intervention of psychical dissociation is the 'cause' of centrifugality; we may say that such precedent changes, centripetality of emotional tone and subsequent familiarity, are essential and equivalent associates in the scheme of this aspect of the function of adaptability, and that psychical dissociation, centrifugality of emotional tone, modification of behaviour by experience, and the formation of habitual action bear a similar relationship to each other in the scheme of the other aspect.

It may be said that emotion-tone and body changes are essential associates in the development of a specific mode of conduct in an animal, and that when such body changes are associated specifically with an emotional tone, the resultant emotion is of the centripetal order and is finally productive of familiarity.

The above description of the emotional tones applies especially to the lower animals, and their modification in man will be dealt with later. It may be said here, however, that there is abundant evidence to show that psychical dissociation for the centrifugal tones also obtains in him. For a large section of the human race, terrifying and revolting experiences are subjected to dissociation, with inability to memorize the object responsible, and perpetuation of the somatic responses formed at the time that object was appreciated. This quite simple mechanism has been elaborated by the Vienna school, and metaphysical conceptions, such as 'repression', 'repression into the unconscious', and 'displacement of dynamic energy from the responsible object memory to the mechanisms of repression', have been postulated. The repressing agencies with their vicarious dynamic

contents are the somatic associates of a central object-experience that was associated with a centrifugal emotional tone and underwent dissociation, a condition of affairs that obtains in all mankind, though to a greater extent in some than in others. In man also it would appear probable that habitual action is capable of development in centripetal tones as such, without the intervention of those of the centrifugal order, a state of affairs associated with the great increase in the associational powers that is characteristic of human psychology as compared with that of the lower animals.

It will be seen from these remarks that the primary instinctive activities as described by McDougall fall into the following groups :—

<i>Prodromal</i>	The curiosity instinct
<i>Centripetal</i>	{ The parental instinct (The self-appreciatory instinct)
<i>Centrifugal</i>	{ The flight instinct The recoil instinct (The self-depreciatory instinct)
<i>Derived</i>	The pugnacity instinct

From the standpoint of clinical medicine, however, these four groups have no real value. From this aspect the essentials to be realized are : (1) All emotional activity is intimately and inevitably associated with some form of somatic behaviour ; (2) Certain emotional tones are accompanied by the operations of psychical dissociation, whereas others are not. Inasmuch as the first of these characteristics is common to all the emotional tones, it follows that, as far as clinical medicine is concerned, the instinctive activities are divisible into two groups, one of which, the centrifugal, is characterized by the operation of psychical dissociation, the other, the centripetal, being characterized by the absence of such dissociation.

Clinically, then, the following grouping of the instinctive activities is of importance :—

1. *Centrifugal*.—In the sphere of which psychical dissociation is operative, and which has as one of its end-results the formation of habitual action :—

Flight instinct
Recoil instinct
Pugnacity instinct

2. *Centripetal*.—In the sphere of which dissociation is not operative, and which has as an end-result the formation of familiarity :—

Parental instinct
Curiosity instinct

It has been emphasized above that memory in the ordinary acceptance of the word, as found among human beings, 'pictorial' memory, is not to be found among the lower animals. As far as the

centrifugal emotional tones are concerned, the operation of dissociation militates directly against this. Among the centripetal tones no such specific negation is found, but the relatively low associational power obtaining among the lower animals renders such memorization highly improbable even in the absence of dissociation. Yet, of course, modification of the psychical receptor apparatus associated with the perceptor mechanism must occur in such animals with all forms of emotional tones; such modifications being developed in association with events that have happened. The animal which, after investigation of its environment, develops familiarity in association with it, is unemotional if, and as long as, the *status in quo* is maintained; any alteration is accompanied by a reerudescence of curiosity and further investigation. The fact that such alteration is appreciated indicates persistence in some manner of the effects of the original state of affairs in the animal's psychology; otherwise the alteration would not be recognized—or rather, would not be associated with further investigation. The same applies to the centrifugal emotional tones; in so far as previous encountering of an object was invested with the emotion of fear, and re-encountering of it at close quarters is subsequently avoided, a persisting change in the animal's psychology is implied. But this persistence of certain psychical processes in no way carries with it the implication of conscious or pictorial memory of the previous state of affairs, even at the time of re-encountering or of re-investigation; it certainly does not imply the possibility of a recall in memory of the previous state in the absence of any such reerudescence of the emotional tone concerned. With the development, in the course of evolution, of anatomical associational dispositions of the brain, and the concomitant extension of psychical processes, conscious or pictorial memory does arise, primarily in the sphere of centripetal tones (in which there is no dissociation ever at work), and later in that of the centrifugal tones as well. It will be seen in the course of discussion of hysterical phenomena that even in mankind dissociation in the sphere of centrifugal emotional tones is liable to occur, with non-memorization of the central incident, and perpetuation of the somatic associates of that incident. But the most hysterical man never develops this 'amnesia' in the sphere of his centripetal tones.

It has been stated above that habitual action is essentially developed in the sphere of centrifugal emotional tones. With the formation of familiarity in that of the centripetal there may for a time be the performance of body movements in apparently constant intensity in association with an emotional tone that is progressively fading, but such movements are not perpetuated; as the tone fades, so also do the movements tend to disappear. In so far as their

disappearance 'lags' behind the fading of the emotional tone, to that extent they may be considered as habitual; but the essence of habitual action, its persistence in the atmosphere of a minimal intensity of emotional tone, is lacking as far as tones of the centripetal order are concerned. Essentially the movements or behaviour specific to such tones bear a constant relation to the intensity of the tone, and this contra-indicates their being classed as habits. The point is one of interest, for it will be seen that habitual action in the case of functional nervous disorders only occurs in those in which emotional tones of the centrifugal order are necessarily operative, hysteria and the centrifugal distortion-neuroses.

In the case of animals other than man, there is a tendency towards complete differentiation between emotional tones of the two orders and their manifestations. In such animals it is difficult to conceive phenomena in the atmosphere of a centrifugal tone acting 'backwards' so to speak, and producing a tone of the centripetal order; for such an assumption we would have to postulate animals capable of living through terrifying experiences to the extent that the somatic associates of the emotion are rendered semi-permanent; and not only this, we would further have to think of such animals carrying on their existence, as far as obtaining their food and successfully evading the causes of their terror. Such conceptions in the case of non-human animals are grotesque. Later, we shall see that in the case of man this state of affairs is not only possible but actually occurs. This is probably bound up with the development of more or less accurate and comprehensive thought transference in the form of speech, and with the extension of the instinct of the herd that obtains in man.

It will be seen, of course, that any tendency for the centrifugal order of emotional tones to assume properties of the centripetal is directly inimical to the interests of the animal other than man; and such a state of affairs is also inimical to man himself, unless he is living in the very complex surroundings of modern society. For the end-result of centripetal emotional tones, as far as the associated somatic phenomena are concerned, is the development of familiarity; for an animal such as a mouse to become familiar with the presence of a cat, in natural life, is inconceivable through its very danger to the existence of the mouse.

It may, however, be said that any activity in the animal that is subservient to the proper development and functioning of a centripetal tone is ultimately capable of being performed for a time and in progressively decreasing intensity, in an atmosphere of familiarity; activities other than these are subjected to dissociation and help in the modification of behaviour known as experience. Or, to put the

same statement in other words, activities performed in an atmosphere of what, to employ an anthropomorphism, we may call self-assertiveness, are liable to the de-emotionalization characterized by the attitude of familiarity on the part of the animal; they conform to the centripetal order. All other activities, carried out in the sphere of self-depreciativeness, are associated with psychical dissociation and form the basis of experiential modification of behaviour.*

To summarize, then, what may be regarded as the outline of the non-human psychology, we may say that:—

1. Prior to the development of familiarity, every object in an animal's environment is associated with an emotional tone, and such a tone is essential for attention.

2. Familiarity for the most part is established through the operation of the emotion of wonder in the instinct of curiosity. It is also formed as an end-result of a centripetal emotional tone.

3. There is a complete absence of attention on the part of an animal in familiar surroundings for such surroundings.

As a corollary to the above statements, there is no memory, as we understand the word, for familiar objects. There is the foreshadowing of memory among the lower animals in the atmosphere of a centripetal emotional tone, but this is a 'body-memory' dependent on visceral dispositions that are specific to the emotional tone; certain activities being gone through that are or have been associated with the emotion concerned. The emotional tone here is intimately concerned with certain specific body dispositions.

4. There is no memory for frightening objects, for any object associated with an emotional tone of the centrifugal order is subjected to dissociation. Efficient somatic reactions are retained and perfected by the same mechanism.

The behaviour of an animal as regards hunger and food is a little more complex, and is to be considered from two standpoints, its behaviour prior to sighting its prey, and that in the presence of it. Before the sighting of its prospective food, conduct is determined by a centripetal tone associated with the specific body dispositions which subserve the sensations of hunger. In the presence of its prey, we have the intrusion into the familiar environment of an unfamiliar object; familiarity disappears and an emotional tone of the centrifugal order arises, activating nerve dispositions associated and perfected with similar occurrences that have previously happened

* The dissociation need not necessarily affect the basis of the actual activities; it only does so in the event of their being defective for the precise environment at the time; it affects the object responsible for the occurrence of these activities, as explained above.

and been subjected to dissociation. To understand this it is necessary to remember the first occasions on which the animal encountered its food in this form and when such food was the object of curiosity. The impulse to investigate on such an occasion being in danger of frustration by the flight of the prey, the derived centrifugal tone of anger arises, with its accompanying dissociation and perfecting mechanism of the body reactions proper to the situation. In the case of the trained and tamed animal these associated body reactions may take the form of fawning on the object associated with the production of food, as in the case of the dog and its master.

It must be remembered that the long process of evolution among animals has led to the determination of specific body dispositions inherent in the animal by virtue of its ancestry, and by means of which an animal has never to begin its life, as it were, *de novo*. To a certain extent every animal at birth benefits by the accumulated experience of its ancestors, and its behaviour in an atmosphere common to it and its ancestors is determined to this extent. That is, no one animal can be looked upon as a thing in itself: it is an integral part, psychologically, of all the animals of its species that have gone before it and all who follow it. And in the same way, of course, the species bear a similar relation to the whole of animal life. To trace the origin of the behaviour of an individual animal to its prey would necessitate the examination of the whole of its ancestry and more.

THE PSYCHICAL REACTIONS OF THE NON-HUMAN ANIMAL TO PAIN.

These reactions are of interest, and have an important bearing on certain of the phenomena of functional nerve disorders in man. Theorization as to these reactions must of necessity be speculative to a certain extent, but it is possible to formulate certain lines of behaviour as regards pain among the lower animals in the light of what has been described above, and from what is known to occur in the human.

The essential factors to be considered are: (1) The characteristics of the pain; (2) The emotional state of the animal at the time of occurrence of the pain.

1. THE CHARACTERISTICS OF THE PAIN.—(a) Sudden in onset, and evanescent; (b) Continued.

2. THE EMOTIONAL STATE OF THE ANIMAL AT THE TIME OF OCCURRENCE.—(a) There may be an absence of emotional tone; (b) There may be a centrifugal emotional tone; (c) There may be a centripetal emotional tone.

These different factors may be considered in detail, and it is

important to remember, in such consideration, that the mechanism by means of which pain impulses are appreciated corresponds to the optic and auditory mechanisms by means of which associated emotional tones and conative responses are put into activity. In the case of pain, the animal 'feels' instead of 'seeing' or 'hearing' (using these words in their ordinary acceptance).

In the Case of Pain that is Sudden and Evanescent.—If the animal at the time of occurrence of the pain was unemotional—that is, if it was in surroundings that were familiar—a centrifugal emotional tone is produced with an impulse to fly. This it does; the cause of the pain is dissociated in accordance with the principles already described. If the pain recurs again and again in these surroundings, the specific flight mechanism becomes perfected, and in the course of time the associations of the surroundings induce flight; in other words, the surroundings lose their familiarity. The quickness with which a centrifugal tone is superimposed upon familiar surroundings would appear to depend upon the completeness of the original familiarity; in the case of a young animal the superimposition is easier, other things being equal, than in the case of an older one. That is to say, a tame or domesticated animal, thoroughly accustomed by age to its environment and casually injured, does not necessarily lose its familiarity for those surroundings unless the injury becomes a daily occurrence. But in the case of a younger animal, one that is less tame, the subsidence of familiarity is very much more easy.

In the presence of a centrifugal emotional tone, the sudden incidence of pain, even if evanescent, raises the intensity of the tone to a maximum, or prolongs the maximal intensity. Dissociation of the cause of the pain, with education of the mechanism subservient to efficient flight, follows.

The occurrence of sudden pain in an animal in which a centripetal emotional tone is present is of interest. Provided the pain be evanescent, there is a tendency to the production of a centrifugal tone with flight impulse. But in the presence of the centripetal tone, flight is impeded and the result is as though a frightened animal, in the absence of the centripetal tone, were prevented from escaping; the derived tone of anger is induced, with the impulse to fight. As in the case of all centrifugal tones, there is accompanying dissociation of the cause of the pain. If the centripetal be of low intensity, as in the case of animals which do not have to undergo any great amount of body preparation for the production of the objects associated with such a tone, then the centrifugal tone may, so to speak, gain the upper hand, and the animal runs away. So, also, if the centrifugal tone be intense, if the pain be associated with cataclysmic fright, then again the flight impulse may become operative. But the existence

of a centripetal tone, of whatever intensity, by such intensity militates against perfect flight, and so far is accompanied by anger.

In the Case of Pain that is Continued.—In the absence of a centripetal emotional tone, the effect of pain is to produce an emotional tone of the centrifugal order, or to increase the intensity of a centrifugal tone if already present. The persistence of the pain acts as though the appropriate conative impulse of the centrifugal tone were unsuccessful or impeded, and the derived tone of anger is produced. The animal being unable to escape from the source of the pain, the anger persists, and the creature succumbs, either to the disease responsible or to the hostility of the surroundings to which it is no longer properly adapted.

As the pain exacerbates and subsides there is continuous evocation of the emotional tone and dissociation of any apparent cause, and familiarity with the environment is destroyed and prevented from re-formation. There is, however, little or no dissociation of the region of the body producing the pain, which remains tender to the touch. This is what we should expect; in animals other than human there is no consciousness of the body and limbs as body and limbs; there is no external projection of the animal's ego so as to conceive the body and its appendages as things in themselves. The non-human animal does not form associations in connection with regions of its own body, and pain is simply discomfort, not "pain in the 'leg' or 'tail'" as the case may be. And, as indicated, the dissociations in connection with the centrifugal emotional tones accompanying pain in the absence of a centripetal tone, are directed to the apparent *causes* of the pain, and body regions in such animals are never idealized as such causes.

But a very different state of affairs is encountered when the subject of continued pain is considered in animals already in the atmosphere of a centripetal emotional tone. In such animals there appears to be a definite dissociation of the *pain* as distinct from its apparent cause, and the elementary anatomical dispositions, as distinct from ideational, are concerned in an associated dissociation of the part of the body that is the site of the pain. The inception of the discomfort may be accompanied by the derived emotion of anger, as described above in the case of evanescent pain, but with the dissociation of the pain there is a subsidence of the anger and of any emotional tone other than centripetal; the animal is enabled to carry out its duties to its offspring. This is in accordance with the prevision of nature, that what is good for the race is not necessarily good for the individual, and that the individual good must give way to that of the race.

As will be seen later, this reaction to pain in the presence of a

centripetal emotional tone has a profound bearing on certain of the phenomena of functional nervous disorders in the human.

Before leaving this part of the discussion it is important to dwell on the two great aspects of instinctive activity, the centrifugal and the centripetal. Both are inherently associated with environment; they are formed and modified thereby, just as the environment is formed and modified by them. But while the former bear a constant relation to the animal as compared with other animals, the latter do not, but are very much more developed relatively in the higher animals than the lower. Complexity of the mechanism of reproduction is accompanied by development of the specialized centripetal psychical reactions, and vice versa; but however lowly the animal, in so far as there is a body mechanism specialized for reproduction, there are reactions characteristic of the centripetal group of emotional tones. Such reactions may be brief and of slight intensity; they may be insignificant when compared with the power of the reactions of the centrifugal tones in the same animal, which may indeed mask them almost to the point of obliteration, but they are still to be recognized. Among the higher animals, on the other hand, there is increasing development of the power of the centripetal reactions; and when we come to the higher mammalia, we approach a state of affairs in which the power of the centripetal reactions is manifest even in the absence of objects directly associated with the responsible emotional tone. That is, we have animals of the same species who are, so to speak, orientated centripetally throughout the whole of their lives.

The centrifugal tones differ most characteristically from the centripetal in the psychical dissociation that accompanies them.* It is perhaps as well to look upon all emotional tones as potentially accompanied by psychical dissociation unless otherwise prevented; the body dispositions associated with the mechanisms of reproduction preventing its operation in the sphere of the tender emotion. The evocation by an object of an emotional tone not subjected to psychical dissociation brings about familiarity, rapidly in the case of the emotion of wonder, gradually in the case of the tender emotion.

Reverting to the phrase 'emotional reactions' in the definition of functional nervous disorders, we may say that the normal emotional reactions from our point of view are three in number, and may be summarized as follows:—

* It may equally be said, of course, that the accompaniment of an emotional tone with psychical dissociation renders that tone one of the centrifugal order; that its absence renders it of the centripetal group.

1. *Somatic Response*.—The occurrence of an emotional tone is associated with certain more or less specific body activities, muscular excitability, special distribution of the blood to certain organs, increased coagulability of the blood, increased sugar content of the blood, pupillary dilatation, alterations in the uterus and mammary glands, altered calcium content of the blood, alterations in certain ovarian structures, and so forth.

2. *Psychical Dissociation*.—Objects responsible for the evocation of an emotional tone are subjected to psychical dissociation unless otherwise prevented.

3. *Familiarity*.—The frequent encountering of an object by an animal that originally roused in that animal an emotional tone not accompanied by psychical dissociation, leads to the fading of that emotion and to the formation of familiarity as regards that object.

Somatic responses that are developed in the sphere of an emotional tone accompanied by dissociation are subjected to modification in the direction of maximum efficiency, with the formation of experience; those developed in an atmosphere of a centripetal tone are performed with an increasing diminution of conscious effort with the formation of familiarity.

The behaviour of an animal living naturally has as its end-results the avoidance of danger and pain, the obtaining of food, and the reproduction of its species. The essential driving force of the animal is manifested through its emotions, and these operate in the ways described above through certain somatic responses; centrifugally with accompanying dissociation and formation of experience and habitual action, and centripetally with ultimate formation of familiarity. Pictorial or conscious memory implies attention, and therefore emotional activity; so that memory is non-existent among animals for objects that are familiar, and is directly obliterated by the mechanism of psychical dissociation accompanying emotional tones other than those productive of familiarity. There can therefore be no memory, as we understand it, among non-human animals. Theoretically memory among such animals is only possible during the active period of a centripetal tone before the formation of familiarity, and such 'memory' is probably not so much psychical as somatic, determined by specific body sensations.

SUMMARY.

1. Functional nervous disorders are manifestations of abnormally-controlled emotional reactions, determined and adjusted by the environment and not by any gross or demonstrable pathological lesion.

2. The reaction of adaptability to the environment is a function

of all living matter, and is manifested by instinctive activity in a positive or negative manner (centripetal and centrifugal respectively).

3. Emotional activity forms one aspect of the reaction of adaptability to the environment, and is also divisible into centripetal and centrifugal aspects.

4. For the purposes of clinical medicine the division of instinctive activity into the different specific instincts as met with among the higher animals is unnecessary; a recognition of its centripetal and centrifugal aspects is essential.

5. Centripetal emotional tones are associated with precedent and specific somatic changes; the centrifugal tones show no such association.

6. The development of an emotional tone in animals other than man is accompanied by dissociation in the psychology of the animal of the incident responsible unless otherwise prevented. (By 'incident responsible' is meant any psychical representation of such an incident, other than that which subserves somatic response.) The nerve dispositions which are associated with the most efficient behaviour of the animal in relation to the incident are rendered more easily activated on any subsequent development of the associated emotional tone.

7. Dissociation is not operative in the sphere of a centripetal tone, and this absence is to be associated with the specific somatic changes which precede and accompany the development of such tones.

8. Dissociation is operative in the sphere of centrifugal emotional tones, and the psychical state so arising conduces to the modification of behaviour known as experience.

9. The frequent encountering of an object, associated at one time with a centripetal emotional tone, conduces to the fading of that emotional tone and the formation of familiarity on the part of the animal for that object. Familiarity is never developed in the sphere of an emotional tone in which dissociation is operative.

10. The constant employment of specific nerve dispositions, activated originally in association with an emotional tone, tends to their ultimate employment without conscious effort on the part of the animal and the manifestation of habitual action.

Among the non-human animals habitual action is developed in the sphere of centrifugal emotional tones.

11. The reaction of the non-human animal to pain would appear to differ according as to whether that animal is or is not under the influence of a centripetal emotional tone at the time. Dissociation in the atmosphere of the pain is operative in both cases, but in the former it is directed towards the pain, and in the latter to the cause of the pain.

CHAPTER II.

**BEHAVIOUR IN MAN AS COMPARED WITH THAT IN
THE LOWER ANIMALS.**

THE remarks in the foregoing chapter apply for the most part to behaviour among animals other than human. Although in the human the principles described above are recognizable to a certain extent, they are disguised and are not obvious in normal behaviour. In certain abnormal states, and, in particular, in certain functional nervous disorders, these principles are to be recognized; there is, however, a regrettable tendency prevalent to forget the great modifications that human psychical processes have been subjected to in association with the formation of an ability to communicate thoughts with very considerable accuracy by means of speech and writing, and with the extreme development of the instinct of the herd in the human communities; the result has been to look upon behaviour among the lower animals anthropomorphically, and to associate such *behaviour* with *psychical processes* which probably occur exclusively in man. That is, because a dog cowers at the sight of a whip it is credited with a pictorial memory of that whip; cowering and memory are associates of the stick or whip in man, it is argued; therefore the cowering in the dog must be associated with similar memory. The preceding sections, however, go to show that specific behaviour is no indication of memory as we understand it, as far as the object responsible is concerned; the precision of the behaviour may indeed, as far as the non-human animal is concerned, be looked upon as the associate of a psychical process that is directly opposed to memorization. It is of importance to realize that the more recently acquired human psychical processes, processes which admit of memorization, fail to develop properly in certain people, as judged from the standpoint of other people in similar surroundings; and in such cases the processes observable normally in the lower animals can be observed in them.

Conscious Memory.—What is the essential feature, as regards psychical processes, which differentiates man as prevalent to-day from the non-human animal? This very fact, that modern man is capable of conscious memory; and it may now be of interest to discuss

briefly the essential association of memory with the human animal.*

It has just been said that as regards psychical processes the great difference between man and the lower animals is that the former is capable of conscious memory whereas the latter is not. As regards anatomical dispositions, the principal difference is to be found in the development of certain regions of the brain in man, a part which is associated with an extension in the powers of association in the human. This extension does not determine memory, but it is undoubtedly an important accompaniment of the development of memory.

Psychical Dissociation in Man, and its Modification by Emotional Control.—We have seen that in the non-human animal one of the most powerful influences or processes inimical to memorization is psychical dissociation, which accompanies emotional tones of the centrifugal order. Psychical dissociation is undoubtedly to be found in man, but in intensities which normally vary greatly in different communities of men; and among those communities in which this intensity is low, it may occur in certain individuals in an intensity higher than the average, giving rise to behaviour which is apparently abnormal, and which is abnormal as judged by the standard of that community. Psychical dissociation does occur normally in all communities, and the point now to be discussed is: What are the factors at work in these different communities that modify its intensity?

The following points are of importance in the resolution of this question:—

1. The first few years of life in the human are characterized by a more or less complete absence of memory, an amnesia which diminishes in intensity from birth on. We may take it that in these cases we are dealing with unmodified psychical dissociation in the process of modification.

2. Hysteria is a condition in the human in which the specific modification of psychical dissociation characteristic of mankind has not occurred as it should have done when compared with that which has taken place in other members of the same community; it is essentially the condition in which such dissociation is more active

* It must of course be understood that, from the philosophical standpoint, in that conscious memory has developed with the formation of the human being, the element of such memory-power must be present among the non-human animals—the potentiality of such memory, that is; otherwise there could be no evolution of memory. But the concrete effects of such element are not obvious in the non-human animals; they are submerged, so to speak, in these lower animals just so long as they are lower animals. The evolutionary processes in which the germ of conscious memory develops lead away from such animals towards the human; and when it becomes evident in behaviour, the human being is evident morphologically. Not that the one is the result of the other, but that both are associates in the sphere of one scheme or system.

than is usually the case, and the environmental associates of hysteria, in so far as they are defective as compared with those of other members of the same community, are to be looked upon as inimical to the 'normal' modification of dissociation. We do not know with any completeness the environmental deficiencies of any individual, but the following factors would appear to be powerful in the hysterical make-up: (a) The social status of the individual; during the recent war it was noticeable that whereas the instinct-distortion neuroses affected both private soldier and officer, hysterical manifestations were more commonly met with among the private soldiers. (b) Family life; hysterical manifestations are met with in relatively greater frequency among those who have been brought up by themselves apart from other children; especially among 'only children'.

3. An absolute diminution of emotional activity is not compatible with anything of the nature of a functional nervous disease, for such people are to be considered as mentally defective; but among the slighter varieties of this condition psychical dissociation is common. Among the more definite cases we do not so much get dissociation, as lack of memorization through the inability to attend (owing to emotional deficiency)—a condition that is to be seen in senile dementias.

Consideration of these points draws us to the conclusion that psychical dissociation, that is so characteristic a feature of the non-human animal, is potentially present to almost as great a degree in the human, and that its modification in the human animal is a very recent acquisition indeed, dependent on *emotional control*. All human beings, in that they are animals, are liable to psychical dissociation in the presence of a violent and overwhelming emotional intensity of the centrifugal order; but the individual who can control his emotions will require a very much more cataclysmic experience before he loses control of his emotions and enters the sphere of psychical dissociation. And as we shall see later, the unlikelihood of a repetition of the cataclysm responsible militates against the development of obtrusive hysterical symptoms in such an individual.

Extended Powers of Constructing Associations in Man.—In addition to this characteristic modification of psychical dissociation in the human, we have an anatomical concomitant, an extension of the power to construct associations; given that memorization is not destroyed by dissociation, this power of constructing associations is of the utmost importance in the production of conscious memory. The relatively limited associations of a non-human animal with an incident of the centrifugal order of emotional tones are practically all concerned with the mechanisms of flight; and, as mentioned above,

the actions of flight tend to some extent to re-induce the responsible emotional tone. But in the case of the human, with his extended powers of association, these need not be, and are not, all associated with flight; the scope of such associational power is very wide, but the same principle holds as far as the re-induction of an emotional tone responsible for their formation is concerned. Given that a man has formed some hundreds of associations with an incident associated primarily with an emotional tone, the recurrence of any one of these associations is liable to cause the reeruption of the emotional tone concerned with its formation, and since psychical dissociation does not necessarily obliterate the central incident in the human, this central incident may recur to memory.

It must be remembered that in the human as in the non-human animal, attentive perception is associated with an emotional tone; but in the former the intensity of the tone may be slight. The associations built up in such cases may recur and lead to the revival of the responsible emotional tone in feeble intensity; the incident associated with that emotional tone in the first place may not be recalled. But unless that incident has been subjected to dissociation, it is always recallable if sufficient care and trouble be taken to work through collateral associations, and of course the more extended the associational powers of the individual are, the more ground is there available for the placing of the particular incident responsible.

For the linking up of an incident with associations an emotional tone is essential, and these three factors—central incident, emotional tone, and associations—are interchangeable as far as the recall of the other two in memory are concerned. That is, the activation of an association recalls the emotional tone in which that association was formed in the first place, and the central incident responsible for the tone; the encountering again of the central incident recalls the emotional tone and the associations formed; and, most important of all, the reeruption of the emotional tone will recall the central incident and the associations. This is, of course, postulating the absence of any dissociation of the central incident; should such a process have occurred, the reeruption of the responsible emotional tone lights up the associations, but does not recall the central incident; similarly, the activation of the associations recalls the emotional tone, but not the dissociated central incident.

The construction of associations in the sphere of an emotional tone of the centripetal order is of supreme importance, for it preserves the emotional tone and prevents the formation of familiarity; the human mother, in the majority of cases, builds up such a mass of associations round her child that almost every activity of her everyday life recalls the child to her memory and invests it with an emotional

tone; there is practically no chance of the formation of familiarity in this sphere.

Associations may be classified roughly into two groups: those that are direct and common to the majority of people under similar circumstances; and those that are peculiar to the individual and personal. Different people differ greatly in the construction of their associations as far as these two groups are concerned, some conforming almost entirely to the former, others to the latter, while a large number may be classed as intermediate, forming associations of the two groups in fairly equal proportions.

The chief differences, then, between the human and the non-human animal, as constituted at present and as far as their mental processes are concerned, are: the suppression in varying degrees of intensity on the part of the former of psychical dissociation through the acquisition of emotional control; and his increased ability to construct associations of an incident other than the purely direct.

Relation of Psychical Dissociation to Ordinary Forgetfulness.—

A point of some interest arises here, and that is: How great a part, if any, does psychical dissociation play in what may be called everyday forgetfulness? As far as this 'ordinary' forgetfulness is concerned, the answer must be, I think, that it plays no part at all; such forgetfulness being a part of insufficient attention at the time of perception; that is, the emotional tone at this time is of subliminal intensity: the associations formed in such an atmosphere are slight and of little value. The common experience of us all that unhappy events tend to be readily forgotten probably depends more on the perfunctory attention paid to them at the time than to dissociation, and this is especially true of those events which are remembered for a time and then forgotten. At the same time this does not hold absolutely: if the associations of an event are remembered and the central incident is not recalled, then we must assume psychical dissociation to have been operative. But this is not everyday forgetfulness: this should be looked upon as an atavistic form of amnesia, and we may take the above as a fairly accurate means of establishing its presence. To take a concrete case, we may say that if a soldier is able to describe a particular scene down to details of a bully-beef tin, and does not recall the sight of a mutilated companion present at the time, then we may assume that that particular sight has been dissociated. But in the case of everyday forgetfulness it is not only the central incident that is forgotten: it is the absence also of the associations, and in such forgetfulness dissociation is not operative: the essential factor is insufficient attention, or attention in an atmosphere of subliminal emotional intensity.

Speech and Writing.—The system in and along which these specific human attributes are developing is further characterized by the development of another and a very important attribute, and that is the power of speech. Briefly, the power of speech welds a community into one individual, the experience of any one member being common to all. With its derivative—writing—experience is rendered cumulative through the ages; and modification of behaviour through experience attained in the non-human animal in the atmosphere of psychical dissociation becomes possible in the human in one devoid of such dissociation; becomes possible for individuals who have never undergone these specific experiences in themselves. The power of accurate and detailed thought transference plays an important part in the development of the *herd instinct*; it is itself reinforced by the herd instinct. This instinct in its development and associations has a special value from the standpoint of medical psychology.

Herd Instinct.—The banding together of units into a herd is of individual and biological value; for the individual it spells added protection against danger from other animals, and from the biological standpoint it permits the survival of characteristics the possessors of which would, apart from the herd, have succumbed—characteristics which are useful to the herd as a herd, but of no apparent value to the individual as a fighting animal. For the perfection of the herd more than mere gregariousness is required; or rather, those units which are developing along lines in advance of the purely gregarious form the more efficient herd. And the more efficient the herd, the greater the biological value it possesses as far as that species is concerned; in the ideal herd the average intelligence derives the benefits of the most intelligent. In addition to the mere instinctive gregariousness, for the formation of an efficient herd there is required from each member the tendency to behave in conformity with the majority and apart from any individual preference, and as an outcome of this, the faculty of submission to authority.

In cases where the instinct of the herd, as opposed to mere gregariousness, is strongly developed, there are found, in addition to gregariousness and submission to leadership, certain modifications of behaviour which are conspicuously absent in the non-gregarious animals. Such are: devotion to the interests of the herd apart from, and often enough in opposition to, the interests of the animal; altruism; obedience to the rules of the herd even when these conflict with the inclinations of the unit. It is not the case, of course, that these modifications are the result of the herd instinct; they are not the 'cause' of the herd instinct; they are inherent in all living protoplasm, and they become manifest in behaviour when animals who

have evolved along certain lines obey another inherent tendency and collect into herds. Such animals form the most efficient herds; animals that have progressed along lines of evolution other than these may indeed form herds, but such herds have not the efficiency of the former. So also gregariousness, altruism, obedience to authority, and so forth, developing or evolving in an atmosphere which is associated with the potentiality of emotional control with its accompanying lessening of the sphere of influence of psychical dissociation, does not 'produce' a human being, but forms an integral part of the atmosphere in which the human being ultimately appears. The importance to the evolving human race of the inherent forces associated with the development of the herd instinct as it is developing cannot be overestimated, but in common with all the processes of evolution the beneficial effects are directed towards the race and not the unit. The human race may be looked upon as the resultant of many forces, one of which is itself the resultant of the interaction of two forces, the instinct of the herd and instincts which man possesses in common with non-gregarious animals. And both these forces are of equal value in the constitution of man as he is at present. The 'conflicts' that are laid stress upon by many psychologists are in reality manifestations of a struggle for existence on the psychical plane, and as far as man is concerned they have an analogous value to the conflicts undergone by non-human animals in their struggle for existence. The human animal in whom such herd associates as altruism, obedience, and devotion to duty are properly developed, is a benefit to and is benefited by the herd in which he lives; he is adapted properly to his surroundings from the psychical standpoint; and the sum total of these factors is the mental condition associated with such proper adaptation and which has received the name 'happiness'. On the other hand, the man who is unfitted for the herd in which he lives, owing to the imperfect development of some or all of these herd associates, succumbs, psychically at any rate, to his surroundings; he is maladapted, and is 'unhappy'. And from the psychical point of view, happiness and unhappiness under these conditions may be taken as analogous to victory or defeat among the non-human animals. The psychical conflict is simply a manifestation of the struggle for existence on the psychical plane; in the course of his development man has, so to speak, attained a new plane with new possibilities for the properly adapted.

An extremely important herd-instinct associate is submission of the unit to authority, and this is so essential for the efficiency of the herd that it must be taken as an inherent property of all animals; one which in certain of them has been sufficiently favoured by evolutionary processes to permit of its becoming operative as an adjunct

to the herd instinct. In the majority of non-human herds one member plays the part of a leader, implying the existence of a capacity for being led among the remaining units. Such leadership may be purely accidental; the behaviour of certain caterpillars described by Fabre is an example of this. Here the animals every now and again perform what may be called 'route marches'; the leadership devolves on the caterpillar that happens to be at the head of what ultimately becomes a column, and whatever movement it makes is scrupulously imitated by all the members of the column behind. If the column is manœuvred so as to become circular, there is then no leader, or every member is a leader, and the march goes on indefinitely. In this case the principle at work seems to be imitation, and this imitation is the seed from which the attitude of the led to the leader develops in more evolved herds.

Somewhat the same principle is to be seen in the case of a flock of sheep, where the actions, even when mistaken, on the part of the leader are performed by the followers. On one occasion I was watching the embarkation of a flock of sheep at Broadford in Skye; the shadow thrown by a fishing-rod lay in the way of the leader, who jumped over it. The succeeding two or three sheep did the same, and then the rod was taken away. But every member of the flock jumped when it came to that part of the deck where the leader had jumped the shadow, although even the shadow was no longer present.

An accepted leader is undoubtedly imitated, but in the acceptance of the leader another factor must be present, and this, among the non-human animals at any rate, is one associated to some extent with fear. The strongest member of the herd is, other things being equal, the leader of the herd. To a great extent this is associated with preponderance of experience; an individual in the herd whose experience is admittedly greater than that of the others assumes the leadership, and of course in the lower animals the extent of an animal's experience varies directly with his age. So that as long as he is the strongest, the oldest member of the herd tends to become its leader. Just as the immature animal is guided by the behaviour of the mature, so the inexperienced member is guided by the authority of the experienced, and this is a tendency that obtains throughout the greater part of animal life; the tendency of individual suggestibility, or of impressibility to superior experience. This tendency is operative in the human herd, and the relation of individual suggestibility to experience is well seen when considered in the light of criticism. An individual who is critical towards a statement or series of statements, or to authority, is an individual who is not suggestible as far as the statement or series of statements or authority is concerned. And his criticism varies directly with his experience.

Herd-suggestion.—But, as Trotter has pointed out, in certain cases statements may be accepted in their entirety and in spite of criticism; even when such statements appear to run contrary in every respect to all experience, they may, nevertheless, be accepted implicitly and to such an extent that anything that seems to contravene their validity is put on one side and ignored; exponents of such contraventions being isolated from the herd or otherwise punished. Trotter maintains that “sensitiveness to the behaviour of the herd . . . has the most important effects upon the structure of the mind of the gregarious animal”, and this sensitiveness probably arises out of the atmosphere of imitativeness that is so essential a feature of the gregarious animal. As a result, whatever the herd does the unit does, and in the more highly evolved animals, whatever the herd thinks the unit also thinks. In other words, the opinions held by the herd are for the most part accepted without criticism by the unit, and before other and contrary opinions can be accepted by him he has to counteract the dead-weight of the herd-opinion on the points at issue in his own mind. The tendency to receive and accept opinions, apart from individual experience, because they are the opinions of the herd—this development of imitativeness, that is—constitutes the phenomenon of herd-suggestion, and the rôle that herd-suggestion plays in the life of the human unit is one of great importance.

It was pointed out above that individual suggestibility varies inversely with individual experience, but a reservation must be made here in connection with this statement. Given that individual experience along a certain line, though correct as far as it goes, is incomplete, then any suggestion based on the incomplete experience, and dealing with material that is, at any rate, not contrary to this experience as far as it goes, is rendered all the more powerful in accordance with the completeness with which that experience is incorporated in the suggested material. In other words, an incomplete experience may become a most powerful reinforcement to the mechanism of suggestion if it be intelligently utilized. It is only when experience along a certain line is complete that suggestion along the same line becomes impossible. In the case of the herd, experience—herd-experience, that is—can never be complete as far as the units are concerned, and herd-suggestion thereby gains potential strength. Conversely, any suggestion that is contrary to herd-experience and herd-opinion is vigorously resisted, even although from the standpoint of the unit such suggestion is justified; it is not assimilated by the herd, and the unit then is at variance with his herd.

It is most important for a proper conception of the relations between the unit and the herd to realize that the tendencies existing in an efficient herd, imitativeness, herd-suggestibility, and so forth,

have not developed *out of* the herd-instinct, but are potentially present in all protoplasm, in all organisms however lowly, and that they become manifest and operative in those organisms that have evolved along certain lines at a certain stage of their development. In certain organisms and at particular phases of their development such tendencies are very much more potent than in other organisms and at other phases, until finally we have the human unit and the human herd as at present constituted. And the human unit and the human herd have developed along lines that have brought them into an atmosphere where the struggle for existence is 'raised' from the purely corporeal plane to the psychical, where the instincts, properly adapted to animals whose development in the scale of evolution has not brought them into a sphere of emotional control and increased psychical associational power, are in man being moulded in this sphere, the resulting organism being, in part at any rate, the resultant of these forces.

Psychical Censorship.—It is necessary to discuss rather more in detail a point raised at the end of the paragraph on herd-suggestion and herd-experience; the resistance shown by the unit in accepting material suggested that is contrary to the opinion of the herd. Necessarily in different herds the material resisted differs; what may be perfectly accepted by one may be absolutely resisted by another, and this obtains in such imperfectly differentiated herds as those which exist to-day among the human races in different parts of the world. However logical it may be, for a normal Englishman to drink cows' urine, to commit incest, to eat his fellow-man on purely ceremonial occasions, would be abominable from the standpoint of another Englishman; yet all these acts are not only conceivable but are proper under certain circumstances among normal members of other herds. In so far as the occidental persists through the ages and the oriental disappears, just so far may we say that the former is justified and the latter is not; but more than this we cannot at present say. The bar to certain actions and thoughts that has developed along with the fruition of the herd-instinct has received the metaphysical name of 'psychical censor', and it is necessary to remember that psychical censorship is an essential attribute of herd-experience and herd-suggestion, and that its scope varies with different herds.

Schizophrenia.—The inhibitory action of herd-suggestion on the acceptance of contrary influences becomes of great interest when it is considered in the light of another phenomenon that has become manifest in the atmosphere of what we may call present-day human psychology, as opposed to non-human psychical processes, the pheno-

menon in question being that known as *schizophrenia*. Schizophrenia is essentially an associate of systematized memory and experience, and may be briefly described as the existence, in varying degrees of intensity, of the opposing element in consciousness to the element suggested.* The conception is that when an individual is told to put out his tongue or to hold out his hand and he obeys, the idea of not putting out his tongue or not holding out his hand is present in his mind. That is, there is an inherent tendency in the human psychology to associate any one conception with its opposite, the negative with the positive. Of course, when this becomes manifest in behaviour we have a pathological state of the individual; in such people a suggestion is not only associated subconsciously with its opponent, but may be negated by the presence of this opponent, so that the suggestion is not acted upon. In more extreme cases the opponent assumes dominance, and not only is the suggested action not performed, but the contrary is performed; the patient, instead of putting out his tongue when so directed, closes the mouth and clenches the teeth; instead of holding out his hand, puts it behind his back; and so on. But the element of schizophrenia is existent in the normal human, or rather the germ from which schizophrenia develops is so existent. This schizophrenic potentiality of the human is a potentiality which in its essence is directly contrary to the instinct of the herd and herd-suggestion; the underlying implication being the interposition of the individuality between authority and obedience. Inasmuch as a certain group of functional nerve disorders are developed in the atmosphere of the herd-instinct, indicating the unfitness of the individual as far as that atmosphere is concerned, we may expect to find schizophrenic indications frequent among people who suffer from these disorders; this is as a matter of fact borne out by observation, and as a corollary it may be said that people who do show such schizophrenic indications in health are *ipso facto* liable to develop the functional nervous disorders associated with the herd-instinct. These points will be considered later in dealing with the dysthymias.

In the discussion of the non-human psychology, stress was laid on the formation of experience in the sphere of centrifugal emotional tones and the development of familiarity in that of the centripetal. The development of speech and memory in man renders it unnecessary as regards the acquisition of experience that he should in all cases have to risk his life; in the majority of mankind, experience is to a

*The word intensity here used applies to the intensity in consciousness, for in the majority of cases schizophrenic phenomena among people other than obviously pathological are on a more or less 'subconscious' plane.

great extent gained indirectly and apart from any centrifugal emotional tone. This, of course, follows from what has been said above ; with the development of emotional control, and the mitigation of psychical dissociation inherent in the uncontrolled emotional tones of the non-human animal, the mechanism by which experience in these latter is gained becomes inoperative in the former ; the mechanism is, however, to be seen in certain functional nervous disorders, and vestiges of it are to be found in the perfection of certain actions which are performed outside the sphere of conscious effort. As regards familiarity, the same holds for man as for the non-human animals ; he is familiar with his surroundings when they cease to arouse an emotional tone in him.

It was argued above that the frequent performance of actions associated at one time with an emotional tone was conducive to the performance of these actions in the course of time apart from conscious effort on the part of the animal, such actions then being habitual. And it was further pointed out that, strictly speaking, habitual action occurred in the sphere of a centrifugal emotional tone. This, however, does not necessarily apply in the case of man ; in him, in association with the mass of everyday associations formed in the atmosphere of centripetal tones, there is less tendency for such tones to fade, and therefore there exists the possibility of certain actions, originally determined in the sphere of such tones, being perpetuated as habits. In the human as in the non-human animal, the frequent repetition of any action or series of actions conduces to their performance as a habit, provided the emotional tone at one time associated with them subsides but does not disappear.

Broadly speaking, then, the human being has evolved along lines which permit the development of :—

1. *Emotional control*, resulting in the diminution of the operation of psychical dissociation.
2. *Extended herd-suggestion*.
3. *Conscious or pictorial memory*, which is in part associated with the diminution of operation of psychical dissociation, and in part with the extended development of his associational powers.

Before leaving the discussion of human behaviour, it may be advisable to consider shortly a point of interest that rises out of a preceding argument. It was said above that different people varied in the formation of their associations of a given incident, and that, broadly speaking, mankind falls into three groups according as to whether the associations formed are predominantly direct, indirect or personal, and mixed. Of course the associations of any one

incident cannot be taken as a test; a number of such incidents should be taken and the results classified.

We may take an ideal scheme such as is represented in *Fig. 1*. Here *A* may be taken to represent the path of perception, or the afferent path, and *B* the path of direct association linking up *A* with the mechanisms of somatic response. *C* and *D* may be taken as representing the paths concerned in the elaboration of associations other than the direct. The presence of *C* and *D*, and the potentialities involved in their presence, differentiates the human from the non-human animal as at present constituted. Given that we have an excitation proceeding along path *A*, when it reaches the point *a'* it may: Pass along to *B*, to *C*, or to *D*, *in toto*: Pass along to *B* and *C*, or to *B* and *D*, or to *C* and *D*; Be diffused between *B*, *C*, and *D*.

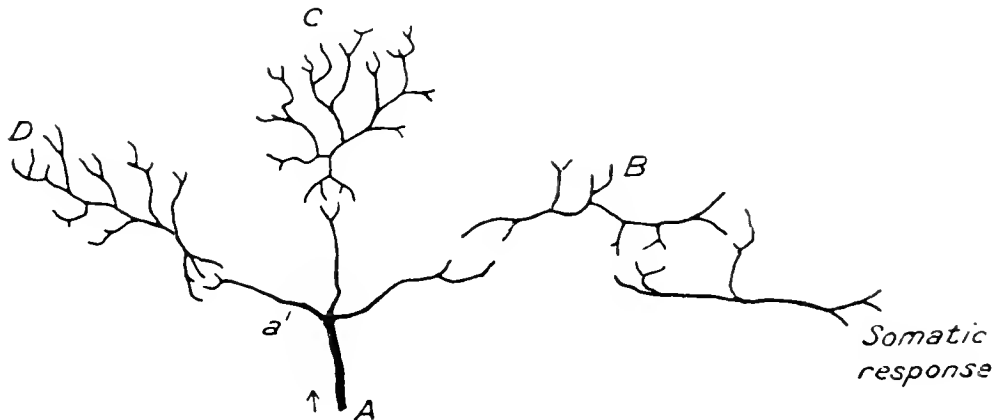


Fig. 1.

As regards the second of these possibilities, the diffusion may be equal along any two paths, or unequal; and the same applies to the third group.

The determining factor as to which of these paths the excitation will take is the relative resistance that obtains at the junctions *AB*, *AC*, *AD*. The path *AB* and its junction is phylogenetically old, being present in man in common with the majority of the non-human animals, and it may be taken, I think, other things being equal, that there will be an inherent tendency for the excitation to pass from *A* to *B*. But, as a human tendency inherent at birth, it is possible for the resistance at *AB* to be higher than usually obtains, and then we may say that the individual in question is congenitally disposed to form associations other than the direct. In the main, however, the immature human will tend to form direct associations, and the relative lowering of the resistances *AC* and *AD* as compared with *AB* is dependent on the upbringing of the individual—that is, on his environment and training. As he grows older there is a progressive

lowering of the resistances AB, AB^1, \dots, AB^n ; AC, AC^1, \dots, AC^n ; AD, AD^1, \dots, AD^n ; in the direction determined by the trend of his early training, according as to whether this has been in the direction of lowering the C and D resistances or not. There comes a phase, of course, in the life of the individual when further lowering of resistances does not occur, or does not occur to any extent; such an individual may then be said to be 'fixed' and incapable of further modification of behaviour.

Now it has been indicated above that the emotional control characteristic of the human—and in association with which there comes about a mitigation of the psychical dissociation characteristic of the non-human animal—also varies with environment and training, and the inter-relationship between the associational construction and emotional control is in all likelihood fairly direct. As a matter of theory, and in connection with the above scheme, I would suggest that the diffusion of the excitation proceeding along A , in more or less equal intensities along B, C , and D is an integral associate of emotional control and associational construction; whereas the passage *in toto* of such excitation along one path only, whether B, C , or D , is a correspondingly integral associate of absent emotional control and non-mitigation of psychical dissociation. And it may also be said that the degree of emotional control varies, between its absence in the latter case and its completeness in the former, with the extent to which the diffusion of an excitation takes place along the possible associational paths. Excitation along A is not of course emotion, but it is essentially associated with an emotional tone in its procession towards B, C , or D , in whole or in part.

SUMMARY.

1. The human being differs from the lower animals as far as his psychology is concerned in the increased range of his associational powers. Structurally this is associated with an absolute increase in his anatomical association-dispositions, and psychically with the acquisition of emotional control.

2. The same grouping of emotional tones into centrifugal and centripetal orders is to be recognized in man as obtains among the lower animals; but in man these tones are capable of control.

3. With the development of emotional control there is an associated diminution of the intensity of operation of psychical dissociation.

4. The diminution of the rôle of psychical dissociation in man is associated with the possibility of memorization in the sphere of centrifugal emotional tones; in conjunction with the increase in the

anatomical association-dispositions, conscious or pictorial memory has developed in the sphere of both centrifugal and centripetal tones.

5. In the atmosphere of memory so determined, there has occurred the development of speech, and its associate, writing.

6. With the development of memory and speech there has been an extension in the sphere of influence of the herd-instinct inherent in many animals, man among them; in this extended sphere there has developed in association with speech an extension of the sphere of herd-suggestion.

7. Herd and individual suggestibility vary inversely with experience, but unless such experience is complete it may be used as an adjuvant to such suggestion.

8. Herd-suggestion is responsible for the non-acceptability of certain material on the part of members of the herd, constituting in this respect what has been called 'psychical censorship'.

9. The human organism as at present constituted shows a tendency to schizophrenia, a tendency directly opposed to the operations of the instinct of the herd. In normal people, schizophrenia is not manifest in their behaviour.

10. Familiarity and habitual action in the human are to be seen in association with activities which were originally determined in the atmosphere of an emotional tone which was other than centripetal and centrifugal respectively.

11. With the entry of the animal into the new atmosphere associated with emotional control, pictorial memory, articulate speech, and extended herd-suggestion (with the development of the human organism, that is), he has entered upon a new plane, and one upon which the struggle for existence is more than merely somatic; it is also psychical.

CHAPTER III.

FUNCTIONAL NERVOUS DISORDERS: GENERAL ASPECT.

FUNCTIONAL nervous disorders were defined above as “the expressions of abnormally controlled emotional reactions, determined and adjusted by environment and not by any gross or demonstrable pathological lesion”. It must be remembered that the word ‘abnormal’ is to be taken in its strictest sense as implying a departure from what is regarded as the standard obtaining in the community or herd to which an individual belongs. The abnormality is quantitative rather than qualitative.

PSYCHICAL CLASSIFICATION OF FUNCTIONAL NERVOUS DISORDERS.

These disorders fall naturally into three groups:—

1. A **RETROGRESSIVE OR ATAVISTIC GROUP**, associated with defective emotional control and with the natural accompaniment of such deficiency, non-suppression of psychical dissociation, proportionate to the degree of the defect. The psychical processes of members of this group approximate to those of the non-human animals, to those which obtain normally among such animals.

This group comprises the hysterias.

2. AN **INSTINCT-DISTORTION GROUP**, arising in association with the instinct of the herd and especially dependent upon the primary or non-gregarious instincts. Inasmuch as we have seen that such instincts fall into two fairly well-defined orders, the centrifugal and the centripetal, it is to be expected that functional disorders in association with them would conform also to these two orders. This expectation is borne out by clinical observation, and this group is to be further divided into:—

a. The Centrifugal or Confusional.

b. The Centripetal or Introspective.

In a previous paper* I suggested the name ‘dysthymia’ as a generic title for members of this group. The characteristic disorder of this group is the terror- or war-neurosis.

3. A **PROGRESSIVE OR EVOLUTIONARY GROUP**, essentially

* *Lancet*, August 10, 1918.

associated with the memory sphere of influence, and therefore conveniently called the 'memory-neuroses' or 'mnemo-neuroses'.

The memory-neurosis is the characteristic functional nervous disorder of modern civil life; it can occur as a war-neurosis, but not characteristically.

If we consider the above three groups in general, we see that from the broadest standpoint they fall into two orders, the retrogressive and the progressive respectively. The former comprises the hysterias, and inasmuch as these states are essentially associated with gross and remediable social defects, their elimination may be looked upon as a reasonable prospect of the future.

The disorders of *Group 3* are particularly associated with the progress of evolution, in that memory is an essential component. We may look upon psychical evolution as moving away from a state of affairs represented by uncontrolled emotionalism, psychical dissociation, feeble associational powers—with their correlate, absent or ineffectual memorization-power—towards perfect emotional control, absent psychical dissociation, and associational dispositions of maximum complexity—with concomitant perfection of memorization-power. But in the meantime, as things are now, evolution has not attained this goal, and we have in consequence a race in the process of evolution which manifests for the first time in animal history a quite considerable memorization-power and emotional tones which, although subject to a certain degree of control, retain as a matter of fact many of the qualities which are of such value to the non-human animals. Do as he will, man cannot eliminate fear from his life as yet; and the presence of this ancient heirloom, with the newly acquired memory contents, brings about in man the potentiality of dread, and its associate, worry. For the proper progression of evolution, struggles are necessary; and when such struggles are on the psychical plane, defeat does not imply somatic death of the individual; it brings about a functional nervous disorder of the third group.

But now it is manifest that disorders of *Group 2* are also progressive, but they differ from those of *Group 3* in being closely associated with the instinct of the herd. Given the presence of memory, functional nervous disorders of the third group can quite easily be conceived as occurring in non-gregarious animals; the herd-instinct is not an essential factor in their formation, even if it is a factor at all. This is not the case with disorders of the second group, but, in that memory plays an important part in this group, it must be looked upon as being progressive. The dysthymias are the outward and visible signs of defeat of the individual in opposition to the herd, and

in so far as memory plays a part in the formation of the individual, just so far does it act in the formation of the dysthymias.

We can, then, make a still broader generalization from a consideration of the different functional nervous disorders; we can say that they are formed in the sphere of memory. In the hysterias it is defective quantitatively; in the mnemoneuroses it is struggling with the non-gregarious instincts and their emotional tones; in the dysthymias it is at variance with the gregarious instinct and its associates.

EMOTIONAL FACTORS.

Lack of emotional control is associated with (hysterical) amnesia; an emotional control that is normal for the herd to which the individual belongs is conducive to mental health. Emotional control that is defective to a lesser degree than that obtaining in the formation of the hysterias is liable to bring about a dysthymia or a mnemoneurosis, according to the environment of the individual. The abnormality of the emotional-control factor that is associated with the formation of the different functional nerve disorders would therefore appear to be one of degree rather than of kind; in other words it is quantitative rather than qualitative.

The Hysterias.—In so far as psychical evolution is moving towards perfect emotional control, absence of psychical dissociation, and concomitant perfection of memorization-power, but has not yet attained this end; and in that uncontrolled emotionalism, psychical dissociation, and ineffectual memorization-power are to be found in obtrusive hysteria, we see that the elements of hysteria are to be found in all mankind as at present constituted; in only some, however, are these elements made manifest as obtrusive hysteria. But we also see that it is not possible to divide mankind into two groups from the standpoint of these elements: the obtrusively hysterical and the apparently normal; we must interpolate a third and an intermediate group, in which we have a degree of emotional uncontrol just short of that which obtains in the former, and provocative of behaviour which departs from the normal. Such people may perhaps be called 'hyperthymic', and their psychology is such as does not, in itself, ever call for medical treatment; the importance of the condition lies in its reaction to other disabilities. In such an atmosphere such people behave differently from normal men, yet at the same time do not behave as hysterical people, using the word to mean obtrusive hysteria. Again, hyperthymic people are not protected by hysterical mechanisms from the other forms of functional nervous disorders; their condition may indeed predispose

them to certain of the disorders of the progressive group. In that hyperthymia possesses no specific symptoms, it cannot be looked upon as one of the functional nervous disorders; its influence on certain organic conditions and on other functional nerve disabilities will be considered later.

The basis that underlies the association of perception and emotional tone, and memory and emotional tone, is not material to the present discussion, and does not concern the clinical aspect of the different functional nervous disorders. We may start from the assumption that potentially, at any rate, there is an inevitable association between these factors.

It has been suggested above that absence of emotional control is associated with a considerable relative decrease in the resistance offered to the spread of an emotional tone through a limited group of associational dispositions as compared with those obtaining in the other groups, the emotional disturbance in its entirety spreading through the dispositions of this limited group to the exclusion of all others. As a correlate of this, it may be said that the ease and rapidity with which an emotional tone is manifested varies directly with the lack of emotional control, and inversely with the degree of diffusion it undergoes through the associational dispositions potentially available. This state of affairs is an integral part of the atmosphere which favours the operation of psychical dissociation. But it is important to realize that the behaviour characteristic of this atmosphere is kinetic; and that such behaviour translates the emotional tone into action—bodily action, that is—and relieves it; there is no emotional accumulation, no increase of emotional concentration. Even in the ‘ideational’ hysterias, in which the emotional disturbance may be taken to have been transferred *in toto* along a limited associational disposition other than that which subserves concrete somatic response, we have this relief of the emotional tone in kinetic behaviour and absence of any increase of concentration. In fact, the very mechanism which accompanies emotional uncontrol and psychical dissociation is accompanied with increased and increasing facility of somatic response appropriate to the individual. In this way the hysterias are not essentially inimical to the mental welfare of the individual; they are hostile to his social welfare.

The Mnemoneuroses.—It is otherwise with the mnemoneuroses. Here we have emotional control which is abnormal, but which does not favour the operation of psychical dissociation. In the mnemoneuroses we have the activation of associational dispositions that may be direct, indirect, or mixed, but they are on common ground in this respect; their re-activation in whole or in part is accompanied by

a painful emotional tone, and the inference to be drawn is that their original activation took place in a correspondingly painful emotional atmosphere. The extent of the anatomical dispositions opened up may be very great indeed, until finally associations are formed with almost every activity of life ; and therefore almost every activity of life re-activates some of these associational dispositions and re-induces the atmosphere of emotional distress. In this way we see that such a mechanism is in many respects analogous to what happens normally in the sphere of a centripetal emotional tone such as parental tenderness, where the emotional atmosphere is continually refreshed in association with the extent of the associational dispositions activated ; and this comparison between the two is rendered possible when the psychical dissociation that formerly accompanied centrifugal tones abates its intensity, and memory in the sphere of such tones becomes practicable. The essential associates of the mnemoneuroses are an extreme degree of activation of associational dispositions of all forms in the atmosphere of a centrifugal emotional tone wherein psychical dissociation is inoperative. In a normally controlled individual the associations formed in a centrifugal atmosphere will not preponderate over those formed in a centripetal, and the incidents of the environment will, other things being equal, re-activate dispositions formed in the two atmospheres in fairly equal proportions ; but in others there will be a tendency for one of the atmospheres to develop at the expense of the other, and once this is so, the associations formed in that atmosphere will accumulate after the manner of a snowball. It must be remembered that the non-diffusion of the emotional tones through all the available associational dispositions, so characteristic of the hysterical mechanism, is conspicuous by its absence in the mechanism of the mnemoneuroses, a cardinal feature of this latter mechanism being the diffusion through very nearly every available associational path of the associated emotion ; this effectively militates against the operation of psychical dissociation, but in that it occurs with increasing exclusiveness in the atmosphere of a centrifugal emotional tone, there is an increasing liability for this centrifugal emotional tone to be re-induced by almost every occurrence in the environment.

What are the determining factors which enable the atmosphere of a centrifugal emotional tone to develop at the expense of the centripetal ? This is not an easy question to answer, but the solution probably depends on the relative importance as far as life is concerned (from the individual standpoint) of the centrifugal and centripetal tones respectively. To the young animal, beginning to control his emotions and building up his experience, there must be a phase in which the importance of the centrifugal emotional tones

appeals to him as greater than that of the centripetal, and unless this appeal be counteracted the tendency will be for the former to grow at the expense of the latter. It is a question of emotional control not directed to the emotions as a whole so much as to one group of emotions in particular; but, as well as this tendency at one phase of life to respect the centrifugal tones more than the centripetal, there must also be an inherent associational facility which has been controlled as far as the emotions as a whole are concerned.

It was mentioned above parenthetically, that the relative importance of the two emotional orders developed the erroneous relationship from the standpoint of the individual, and the individual is here contrasted with the race and not with the herd. Just how far the proportion of the centrifugal and centripetal tones may be at fault in the construction of the mnemoneuroses is seen in the attitude of a girl, who has grown up in the atmosphere of this disorder, when she becomes a mother. The child then becomes an added source of worry and dread instead of pleasure and happiness. In the mnemoneuroses there is no emotional relief through kinetic behaviour, but in so far as the individual is concerned in its construction, schizophrenia also plays a part and is conducive to indecision and inability to act. There is increasing concentration of the emotion at fault, and that is constantly being re-induced in everyday life. So that the mental health suffers.

The Dysthymias.—The dysthymias may be looked upon in some ways as extensions of the mnemoneuroses, being the expressions of an individual, potentially mnemoneurotic, when put into surroundings in which a centrifugal or a centripetal emotional tone is exclusively dominant. Given that emotional control has been defective to the extent which obtains in the construction of the mnemoneurotic, or to a less extent than that necessary to bring out obtrusive mnemoneurotic symptoms, then such an individual when put into an atmosphere for any length of time in which terror or tenderness is dominant, will still further build up his associations in these respective atmospheres. And if anything prevents the proper kinetic behaviour of these atmospheres, an increase in the emotional concentration takes place. Of course, what is liable to prevent the association of the appropriate conative activity with the extended emotional atmosphere accompanying the extension of the associational dispositions activated, is herd-suggestion. So that, whereas in the mnemoneuroses we have a considerable lack of balance between the associations formed in the two emotional atmospheres, with a very limited degree of operation of the herd-instinct; if such instinct operate at all, in the dysthymias we have a lack of balance of the

same nature, but not necessarily to the same degree, with a greatly increased extent of operation of the herd-instinct. In the event of the environment being grossly provocative of a centrifugal or centripetal emotional tone, and thereby grossly straining the influence of herd-suggestion, the lack of balance in the individual between the centrifugal and centripetal emotion association spheres need not be in any way great for the construction of a dysthymia. Given an environment of sufficient emotion-producing intensity, there need be no lack of balance at all, normally constituted individuals in such situations breaking down. We may indeed go further than this, and say that environmental conditions are conceivable which would be associated with a dysthymia of centrifugal emotional tone even when the individual's balance has been in the direction of preponderance of the centripetal emotional association spheres. And, with appropriate change in the environment, the same applies to centripetal dysthymias also.

In that herd-suggestion plays a dominant part in the construction of the dysthymias, and is expressly directed against the association of an emotion with its proper conative activities, we have in these disorders a maximum emotion-concentration as compared with the other functional nerve disorders, and a maximum intellectual disability during the time of their activity.

To sum up, then, we may say that in the hysterias we have a lack of control affecting the emotions as a whole, and in integral relation to this the non-diffusion of emotional disturbances through the available associational dispositions: such disturbances being transferred *in toto* along one set of such dispositions only. The correlate of this is psychical dissociation, which, as in the non-human animals, is conducive to prompt and effective kinetic response, to emotional relief, and therefore no *necessary* mental distress.

In the mnemoneuroses we have a lack of emotional control which affects one group of the emotions as compared with the other, centripetal or centrifugal respectively, and an extreme degree of activation of associational dispositions in the atmosphere of the emotional tone responsible. There is no associated psychical dissociation, and the extent of the associational dispositions concerned is conducive to the frequent recurrence of the responsible emotional tone in memory. There is little or no kinetic response, and there is resulting mental distress.

In the dysthymias we have an emotion-provoking environment, herd-suggestion, and association dispositions activated in the spheres of the two orders of emotional tones. In the formation of these disorders the relationship between the environment and the balance of association atmospheres is direct and in the inverse ratio, and, as far as these disorders are concerned, the influence of herd-suggestion

producing them varies directly with the emotion-provocative elements of the environment. Here also kinetic response is absent, and the intellectual faculties are impaired for the period of the disorder.

ENVIRONMENTAL FACTORS.

Another aspect from which the three groups of functional nervous disorders may be considered is that of environment. Environment plays an important part in the genesis of all three groups, but its rôle is not the same in all three. Its influence is two-sided, determining and adjusting. The determining influence is to be recognized in the building up of the individual in the period of immaturity, during which period emotional control is or is not brought about; associational dispositions activated in the atmospheres of a centripetal or centrifugal emotional tone balance or do not balance. In addition to the general determining influence, environment also has what may be called specific determining powers in accordance with which certain 'incidents' experienced by the individual specifically modify his conduct. The influence of adjustment is to be seen in the manner in which alterations in environment are associated with alterations of behaviour.

Broadly speaking, the determining influences of environment, as far as the adult human is concerned, belong to the past, and the adjusting powers to the present; the periods of immaturity and maturity respectively. And whereas the determining influences of environment are peculiar to each individual, in that his home and family life as a child are peculiar, the influences of adjustment are common to all members of the herd to which he belongs in health.

Behaviour in health, other things being equal, is the outcome of the environment of adjustment upon the determined environment; it is the commentary of the former on the latter. Given that the determined environment has been abnormal as far as the herd is concerned, then the environment of adjustment common to that herd will be associated with abnormal behaviour on the part of that individual. Given, again, that the determined environment has been normal, and the environment of adjustment for some cause departs from what is normal to the community for a time, the resulting behaviour again is liable to be abnormal. In this latter event, of course, in so far as the abnormal environment of adjustment affects the whole community or a part only, the whole community or a part respectively manifests abnormal behaviour. And in such circumstances the units of the community break down in an order inversely proportional to the normality of their environment of determination.

Such abnormal behaviour in the human shows itself as a functional nervous disorder, and the association of the environment with such disorders may be as follows :—

1. Defective environment of determination ; normal environment of adjustment.

2. Normal environment of determination ; defective environment of adjustment.

3. Defective environment of determination ; defective environment of adjustment. In this case the defects of the two environments *necessary* vary inversely.

Speaking generally, it may be said that the functional nervous disorders developed in association with the environmental defects of (1) are the hysterias and the mnemoneroses ; of (2) the dysthymias ; of (3) the hysterias, mnemoneroses, and dysthymias in accordance respectively with the degree of defect of the environment of determination.

Distinction between Functional Nervous Disorders and Insanity.—It must be remembered that abnormal behaviour can only be classed as functional as long as it does react in the above way to the environment ; in so far as it is associated with environmental defects, that is. If behaviour, grossly abnormal from the point of view of the herd, or abnormal to a less degree even, does not so conform, then it must be regarded as 'insane'. This is especially so when considered in the light of the environment of adjustment ; for just as normal behaviour alters in conformity with this environment, so also does abnormal behaviour that is 'functional' ; all functional nerve disorders can be restored to the normal by suitably altering the environment of adjustment, but not cases of alienation.

Thus, in the case of a mnemonerosis (which is in particular the functional nerve disorder that is liable to be confused with alienation), the history and examination into the environment of determination will reveal a reasonable cause for the depression, and proper re-arrangement of the surroundings will be followed by disappearance of the symptoms. In the case of melancholia, however, there is to be found no such reasonable cause, and no re-arrangement of the surroundings in themselves cures the patient. In other words, in the former case the condition is determined and adjusted by environment, whereas in the latter it is not ; the former is functional and the latter is not.

So also in the case of the dysthymias ; the confusion or hypochondriasis, as the case may be, is the proper response to a faultily adjusted environment acting in association with a defective or normal determinative environment ; and correction of the environment of

adjustment relieves the symptoms. In 'confusional insanity' this is not the case.

In this way it would appear as though an integral associate of the insanities were a congenital associational disposition which is absolutely incompatible with the proper diffusion of emotional disturbance, whereas in the case of functional nervous disorders there is no such absolute congenital disposition; but environmental defects are, among others, responsible for a non-diffusion, although the apparatus for proper diffusion is present and capable of correct activation when the surroundings are suitable altered.

CLINICAL CLASSIFICATION OF FUNCTIONAL NERVOUS DISORDERS.

The foregoing discussion as to the nature of these functional nervous disorders has been developed from the psychical standpoint only; when such conditions are encountered clinically, we find the two groups, retrogressive and progressive, sharply differentiated by their symptomatology. Disorders of the latter order, the dysthymias and mnemoneuroses, are characterized by the abnormal activity of the sympathetic nervous system, whereas those of the former—the hysterias—are not. From the purely clinical point of view we can classify functional nervous disorders into the following groups:—

1. Those in which the sympathetic nervous system is functionally normal (*retrogressive group*).—The hysterias.

2. Those in which some abnormality of the sympathetic nervous system is discoverable (*progressive group*).—(a) The dysthymias, centrifugal and centripetal; (b) The mnemoneuroses.

This clinical classification is obvious at first sight of the patient, and its main value is the hard-and-fast differentiation of hysterical states possible by its use; the recognition of the sympathetic intervention militates against such a diagnosis, as is to be expected in a condition which arises out of a normal psychical state among the non-human animals. Unfortunately, a diagnosis of 'sympathetic functional nervous disorder' is not sufficiently concise for clinical purposes, and a further division on psychical grounds is necessary. For the most part the dysthymias and the mnemoneuroses are readily separable, but there is a tendency towards overlapping; a tendency which is conspicuously absent as regards these conditions and hysteria.

The differentiation between hysteria and the sympathetic neuroses has been vaguely recognized for some time in medicine; if the name 'neurasthenia' has any application at all, it may be applied to the sympathetic neuroses. In times past, however, neurasthenia has been applied to all functional symptoms that are not specifically hysterical.

SUMMARY.

1. From the clinical, psychical, and evolutionary standpoints, functional nervous disorders fall into one of two groups, regressive or progressive respectively.

2. The progressive group is further divisible into two subgroups, clinically and psychically; biologically these subgroups have the same significance.

3. A defective degree of emotional control (hyperthymia) is an essential associate of the regressive group, the intensity of the hyperthymic condition varying directly with the intensity of such disorders. Disorders of the progressive group are liable to be associated with hyperthymia secondarily or primarily, but such an association in them is not essential.

4. Disorders of the regressive group are manifested clinically as hysteria; psychically they are characterized by the operation of psychical dissociation among emotional tones of the centrifugal order; from the evolutionary standpoint they are atavistic.

5. Disorders of the progressive group are represented clinically by the distortion-neuroses and the memory-neuroses; psychically by the maladaptation of the individual to the instinct of the herd, and the maladaptation of the individual as a member of the herd to the non-gregarious instincts, respectively; from the evolutionary standpoint they are manifestations of unfitness on the part of the patients for their environment, such patients being failures in the struggle for existence.

6. Defective emotional control, or hyperthymia, may be primary or secondary, and is of various degrees of intensity. Primary hyperthymia is the abnormal persistence in the human of the emotional uncontrol which characterizes the non-human animals and the normal human infant; it is not preceded by emotional control, and in its greater intensities it is an essential associate of hysteria in man. In less intensities than this, primary hyperthymia may be associated with the progressive functional nervous disorders, which are liable to modification thereby. Secondary hyperthymia implies precedent emotional control, and is liable to supervene upon the progressive functional nervous disorders in their course, and upon any organic disease; it is a characteristic associate of the involutionary changes of senility.

7. Hyperthymia is not one of the functional nervous disorders; the hyperthymic state, however, is capable of modifying all forms of disorders, whether functional or organic. The reactions of the hyperthymic individual to pain, in particular, are specific.

PART II.—THE REGRESSIVE GROUP OF FUNCTIONAL NERVOUS DISORDERS.

CHAPTER IV.

HYSTERIA : SOME GENERAL CONSIDERATIONS.

HYSTERIA is a form of behaviour in man which approximates most to that which obtains normally among the non-human animals. It is essentially associated with defective control of the emotions as a whole, psychical dissociation, and emotional relief through kinetic somatic behaviour. It is determined by environment, and hysterical symptoms become manifest as one result of a normal environment of adjustment upon a defective determined environment. In the event of the environment of adjustment being also defective, such symptoms are all the more readily produced. It may be defined clinically as that functional nervous disorder which is characterized by abnormal activity of operation of psychical dissociation.

Behaviour among the lower animals was discussed from two standpoints, according as to whether the animal at the time was under the sway of a centripetal or a centrifugal emotional tone, and these two standpoints are important points of view in the study of hysteria. At the same time the extension which obtains in man of the potential associational dispositions must be considered, and the environment, determined and adjusted, in the atmosphere of which these associational dispositions are activated. The hysterical kinetic behaviour is largely the outcome of the environment of adjustment on the associational dispositions (subservient somatic response) activated in the atmosphere of psychical dissociation, and the only inevitable symptom of hysteria is amnesia, or, as Janet put it, limitation of the field of consciousness. Inasmuch as the emotions of no living man are under absolute control, just so far are all living men hysterical from the theoretical standpoint ; but only in a few of these does hysteria become manifest as symptoms sufficiently obtrusive to need special attention.

ENVIRONMENT.

The Environment of Determination.—We may begin our discussion from the aspect of the determined environment. The environment of the growing child that is conducive to the subsequent development of obtrusive hysterical symptoms is essentially one of lack of restraint, in which the child develops with itself as the central point to which everything defers and yields. The passions and desires of the child are not corrected, and are not associated properly, and unrestrained somatic behaviour is the prompt associate of any emotional tone experienced. It should be remembered that the child at birth, in proportion to the length of its non-human ancestry to its human, is disposed to activate its direct somatic associational paths at the expense of its more recently acquired indirect or non-somatic paths; and unless outside influences are brought to bear upon him that are specifically directed to the checking of this ready somatic response to any emotional tone, in the period of immaturity, then as the years go on and the somatic associational paths are more and more utilized, the proper diffusion of an emotional tone through the other associational dispositions in addition becomes less and less practicable. In the event of a child being brought up in association with other children of approximately the same age, there is a more or less inevitable checking of this tendency to activate one group of associational dispositions at the expense of the others; for in such an atmosphere there is a more or less necessary modification of behaviour in conformity with the individuality of the other children, and in so far as there is this modification, associational paths other than the purely somatic are activated. *Hoc volo, sic iubeo, sit pro ratione voluntas* may be taken as the principle above all others of the atmosphere associated with the construction of hysteria; and the more such a principle is rendered inadmissible in the atmosphere of the developing child, the less hysterical will he be. To take a concrete illustration, we may imagine the child in question desiring an apple. If the expression of the desire is followed by the reception of the apple, the associational paths activated are purely somatic in proportion to the ease with which the apple is obtained. If, on the other hand, other children are present, then the emotional-tone-apple atmosphere is liable to be accompanied with associations of a more extended order, in conformity with the consideration that the claims of these other children receive from the authorities; with the non-inevitability of 'apple-reception' as an outcome of the 'desire emotional-tone' atmosphere.

It will be seen then that 'only children', girls, and children that are much older or much younger than their brothers and sisters, are,

other things being equal, more liable to grow up in an atmosphere unfavourable to control of the emotions as a whole than children that have been brought up as units in a large mixed family of approximately equal ages, wherein there is a necessary and salutary deference to each other. In such an atmosphere Juvenal's bitter motto has but a small chance of being applicable to any one member. Of course it may be that the tendency to activation of the direct associational paths present at birth, and inherent in the human animal in so far as he is an animal, may be more than a mere tendency; there may be a definite congenital disposition of the possible associational paths rendering the normal diffusion of emotional disturbances impossible; but in such cases the individual is strictly mentally defective, and his condition is not hysterical in the true sense of the word.

Children who have been brought up in the atmosphere of *hoc volo, sic iubeo, sit pro ratione voluntas* are liable to other adverse influences as time goes on; they tend to be shielded from anything associated with an unpleasant emotional tone, and therefore, as they grow up, the extent of their experience becomes increasingly deficient when compared with the normal for the community in which they ultimately have to play a part. And the degree of defect of their experience is to be gauged by the development of their individual suggestibility. We shall also see later that this suggestibility is reinforced by the psychical dissociation that accompanies deficiency of emotional control.

The determining environment which favours the diffusion of emotional disturbance along one group of associational dispositions to the exclusion of others may be responsible for the exclusive activation of the non-somatic associational groups, in which case the individual is equally hysterical in that there is non-diffusion of emotional disturbance and accompanying psychical dissociation among the groups activated, but the somatic manifestations are more dependent on exotic ideational associations. The defective emotional control concerned supervenes at a rather later period in the development of the child, up to which period emotional diffusion has progressed more or less normally. It is liable to affect children of considerable potential associational powers whose physical development is poor, and who, with the acquisition of knowledge of reading, writing, and so forth, are permitted to live a solitary life among their own thoughts. Their associations are activated more and more exclusively along the line of one group; emotional diffusion takes place in progressively diminishing degrees, and psychical dissociation operates with abnormal intensity. In so far as these children live in themselves and away from the interests of their community, their experience is defective and they are suggestible.

Influence of Specific Incidents.—It was mentioned above, in the discussion of environment as a factor in the construction of functional nervous disorders, that the determined environment, in addition to its general influence, possessed a specific value as far as certain incidents are concerned. The incidents in question are those which in themselves are responsible for the production of a centrifugal emotional tone on the part of the beholder or participant, and such incidents, of more or less daily occurrence in the modern community, attain special eminence when they are brought into the environment of an individual who is being determined in the direction of emotional uncontrol and psychical dissociation. The essentials of what may for the sake of brevity be called a 'specific incident' are :—

1. An individuality in the process of formation whose emotional disturbances are not diffused through the potentially available associational groups; and whose mental processes are accompanied with psychical dissociation with hypersensitiveness of the limited association paths activated at the time of perception.

2. An incident remote from this individual's experience, and responsible for a centrifugal emotional tone of high intensity.

In the event of the specific incident occurring for the first time in the history of the individual, it may be referred to as a 'primary incident'.

The mechanism of the specific incident in the construction of hysterical symptoms will be discussed from the emotional aspect of the condition.

The Environment of Adjustment.—The environment of adjustment is the herd environment, as contrasted with the environment of the home and family, which is the determined environment. In accordance with the perfection with which the latter merges into the former, the probability of manifest hysteria decreases; and inasmuch as the environment of adjustment is less likely to vary, it has a 'testing' value in relation to that of determination. Broadly, the environment of adjustment brings to bear upon the individual influences other than autogenic; it is one which individual tendencies are incapable of altering.

At the same time the environment of adjustment is subject to occasional cataclysmic alterations which, for the non-development of functional nervous disorders, necessitates proportionately perfect determined environment; in such circumstances, given that the determined environment has in any way fallen short, such conditions are all the more easily made manifest.

As far as hysteria is concerned, the environment of adjustment

is operative by virtue of its potential emotion-evoking content of centrifugal tones, associated in particular with:—

1. Pain, in the broadest sense.
2. The occurrence of specific incidents, which may or may not be primary as far as the individual is concerned; other than primary in the majority of cases.

Under such circumstances, as we shall see later, the individual behaves in a manner in strict conformity with the personality he has evolved as the resultant, among other things, of his determined environment and developing individuality; and this resultant is, in the case of a determined environment that has been defective in the manner described above, an individuality which demands protection from the centrifugal emotional tones evoked by the environment of adjustment, with the maximum relief of such tones by a kinetic somatic behaviour appropriate to the limited associational group activation in the defective determined environment.

EMOTIONALISM.

Another and a most important aspect in the study of hysteria and hysterical states is that of the emotions. It is no more accurate to look upon these emotions as being of more importance in the genesis of hysteria than environment, than it would be to look upon the glass which is broken by a stone as a more important factor of the accident than the stone or the boy who threw it; but the emotional aspect is certainly quite as important as the environmental.

It should be realized that the human being at birth, the untrained human, differs from non-human animals as far as his psychology is concerned in the greater number of potential associational dispositions that he possesses, and that as far as the emotions are concerned, at this stage the difference is inconsiderable. The human animal manifests emotional tones of the centripetal and centrifugal orders just as the non-human animal does. He is capable of affection, fear, and repugnance: in addition, he evinces curiosity, and anger when any of the emotional tones are impeded.

Among the non-human animals it has been suggested that centrifugal emotional tones are accompanied with psychical dissociation, and that the centripetal tones are associated with the formation of familiarity as the emotional tone fades; that specific somatic dispositions militate against the fading of centripetal tones; but that, since these are purely temporary, such fading is never delayed for any length of time. The psychical dissociation accompanying centrifugal tones is expressly inimical to memorization, while, apart from the tendency for an elemental emotional tone to fade, there is nothing

hostile to memory among the centripetal tones. As a matter of fact, it is among the centripetal tones that the germ of what develops into memory as the organism develops other human characteristics is to be found, and the perfection of its development, relatively, in the human is essentially associated with the increase in the number and complexity of the anatomical associational dispositions inherent in the human at birth. Once there is the development of systematized memory—with its associates, speech, reading, and writing—then potential control of the emotions as a whole, centripetal and centrifugal, becomes actual or kinetic.

It is of cardinal importance to realize that just as in the non-human animals centrifugal emotional tones are accompanied with psychical dissociation, so also among human beings: *uncontrolled* emotional tones of the centrifugal order are correspondingly accompanied with psychical dissociation. If we imagine a man whose emotional tones are ideally uncontrolled faced with an object which evokes an emotion of the centrifugal order, we have an individual whose whole attention is devoted to that object; who shows what may be called limitation, contraction, or *concentration of consciousness* on the object. Consciousness or attention is devoted to that object alone at the expense of all other elements of the environment; there is for a time a limitation of the field of consciousness. On the other hand, if we take the case of an individual whose emotions are ideally controlled, this concentration does not occur, and a proportion of the interest, consciousness, or attention—emotional tone, that is—is directed to other objects of the environment; there is a diffusion of the emotional disturbance through associational groups other than, or in addition to, the purely somatic which does not obtain in the former case. And inasmuch as there is this diffusion through associational dispositions, other than the somatic, for the central object and others in the environment, there is memory as we understand it. The more intense the emotional tone excited by the central object, the more intense the limitation of consciousness, the less liability is there for the diffusion to take place through any associational dispositions other than those which subserve the purely somatic response and which in themselves are not concerned with memory; memory in such circumstances is non-existent; there is, in other words, psychical dissociation. And in so far as associational dispositions are activated which *only* subserve somatic response, just so far have we, not so much a dissociated system representing the incident, as no record at all. Memory depends, among other things, upon the number, extent, and complexity of associational dispositions activated other than those which are subservient to somatic response, and we may say that:—

1. The concentration of consciousness or attention, under the influence of a centrifugal emotional tone, and memory for the object responsible, vary inversely. Diffusion of emotional tones of the centrifugal order among available associational dispositions varies directly with the extent of consciousness.

2. In the sphere of centrifugal emotional tones, extent or diffusion of consciousness and emotional control vary directly.

3. The intensity of an uncontrolled emotional tone of the centrifugal order concentrates attention on the object responsible and limits the field of consciousness proportionately.

4. Limitation or contraction of consciousness in the sphere of centrifugal emotional tones, and psychical dissociation, vary directly.

The field of consciousness of course applies not only to objects in an external environment, but also to images recalled, or which normally would have been recalled to consciousness in a specific environment through re-activation of appropriate association groups had these been normally activated at a specific time. And in proportion to the non-activation of these association groups at that time is the case with which consciousness is contracted when they are subsequently encountered; criticism being necessarily in abeyance.

Psychical dissociation never takes place in the sphere of a centripetal emotional tone, however concentrated consciousness may be. Lack of control in a centripetal emotional-tone atmosphere may be the rule in certain situations, but amnesia never develops in the atmosphere so formed.

We may say, then, that diffusibility of an emotional disturbance through all the available association dispositions conduces to the mental atmosphere of a centripetal emotional tone, while non-diffusibility is conducive to that of a centrifugal tone. In that emotions developed in certain situations must, for the preservation of the animal, be immediately translated into somatic response *in toto*, non-diffusibility is an essential attribute of the tones evoked in these situations; and since such situations are those charged with danger to the animal, the atmosphere of non-diffusibility acquires the feeling tones of danger, fear, repugnance, and so forth. Other situations do not demand this inevitability and rapidity of body response; and in so far as they do not, associational groups other than the purely somatic are activated, the emotional disturbance developed in such environments diffusing.

It has been said previously that all emotional tones among the lower animals—and the same, as a matter of fact, might be said of man—are associated with psychical dissociation unless otherwise prevented. This is true as far as it goes; the preventing mechanism in the case of the centripetal tones being body dispositions or cortical

association dispositions according to the evolution of the animal. But if we go a little further into the question as to the mechanism of origin of such preventive associations, the following solution would appear to be in conformity with the facts :—

1. The essential 'driving force' or emotionalism inherent in all protoplasm, and represented in unicellular organisms as the 'pre-conative state', is potentially diffusible.

2. In the process of evolution it becomes concentrated in the atmosphere of certain situations, but retains its potentiality for diffusion.

3. That with the further progress of evolution, with the development of somatic and cortical associational dispositions, the tendency to diffuse reappears in certain other situations.

4. That feeling tones are associated with emotionalism or the essential driving force, in conformity with the potential danger to life or otherwise of these situations respectively.

In this way we see in the inherent driving force of the amoeba a force which has the potentiality of: Concentration, psychical dissociation, and the feeling tones of fear and repugnance; diffusion, memory, and feeling tones of parentalism; of centrifugal and centripetal emotional tones respectively.

In the case of hysteria we have a lack of control of the centrifugal emotional tones that is compatible with psychical dissociation for objects responsible for such tones, and this dissociation may extend to the setting in which these objects occur. Psychical dissociation in the sphere of centrifugal emotional tones is of value to the individual as an individual, but is useless to the herd in so far as it militates against available experience. On the other hand, in certain situations of the herd, units who have developed in the atmosphere of psychical dissociation possess positive value as far as the herd is concerned; psychical dissociation, defective experience, and proportionately defective criticism and suggestibility, develop together in the one atmosphere, and render the individual peculiarly amenable to herd-suggestion and obedience to authority. But in so far as disabling symptoms are liable to arise with equal ease in this atmosphere, such individuals are never to be relied upon for any length of time.*

* It was always a matter of interest to me when dealing with functional nervous disorders among soldiers, to notice the frequency with which hysterical symptoms and non-commissioned rank coincided in young soldiers. The atmosphere in which such men had been brought up, and in which psychical dissociation, lack of emotional control, and defective experience and critical potentiality developed, was productive of an amenability to discipline and prevalent herd-conduct which obtained for them their stripes, and, when they encountered a situation highly charged with the potentiality of centrifugal emotional tones, their obtrusive hysterical symptoms.

Commissioned officers, on the other hand, as has already been mentioned, were less liable to develop such symptoms, owing, probably, to the different environment of determination which had obtained in their case.

In the foregoing remarks, emotional control has, for the purpose of brevity, been referred to as though completely 'polarized'; as though present or absent in entirety. But it should be realized that in man there is an almost infinite series of varying intensities of such control intermediate between these two extremes, and that, furthermore, complete control and lack of control in man of to-day are of the nature of idealistic conceptions. There is no standard intensity below which behaviour is hysterical and above which it is not, but symptoms recognized as hysterical fade imperceptibly into manifestations that are not incompatible with normal behaviour, and it may be said that all such behaviour is associated with these manifestations in accordance with the conceptual idealism of complete emotional control. One of the essential associates of memory is the dispersal and diffusion of emotional disturbance through varied and extensive associational dispositions, thereby multiplying the likelihood of objects in any environment re-activating one or some of them and recalling images into consciousness. In so far as this dispersal and diffusion of emotional disturbance is an essential associate of memory, one of the associates of defects in memory is the defect of such dispersal. We have already seen that, as far as centrifugal emotional tones are concerned, diffusion of the emotional disturbance through extended associational dispositions, and psychical dissociation, vary inversely; one of the associates of defects of memory, then, is psychical dissociation. The question as to whether forgetfulness of all forms is an associate of psychical dissociation has already been discussed; we may say here that the possibility of forgetfulness and the potentiality of psychical dissociation have in all probability developed together in the scheme of psychology, and that there is no essential improbability in their being more closely related than this; but from the standpoint of clinical medicine this point has no great value. What should be realized, however, is that 'ordinary forgetfulness'—forgetfulness, that is, which has been associated with deficient attention and with the deficient activation of associational dispositions—*never* produces obtrusive hysterical symptoms, and therefore the clinician may discard the rôle of psychical dissociation in such an atmosphere: though, perhaps, the psychologist may not. As was mentioned above, psychical dissociation may be taken to have played a part in the forgetfulness of an object that is associated with memory of other objects in the same environment, an environment that is the same in time and space; such amnesia is hysterical in itself.

In so far as psychical dissociation is only operative in the sphere of centrifugal emotional tones, it follows that hysterical symptoms are developed only in the sphere of such tones.

The rôle of the centrifugal emotional tones in the human differs from that which obtains in the case of the non-human animal; it is associated with behaviour other than the purely somatic. The non-human animal, under the influence of such tones, runs away, fights, or recoils; in the case of the human, on the other hand, we have an extension of the sphere of such tones, running parallel with a progressive diminution of their intensities; out of the atmosphere of blind headlong flight we have developed such comparatively mild intensities as slight discomfort; aversion has correspondingly developed out of the atmosphere of intense and shuddering disgust; annoyance out of that of anger. But it must be remembered that such discomfort, aversion, and annoyance are definite indications of a centrifugal emotional-tone atmosphere, and they inherit or are associated with some of the specific attributes of this atmosphere. In that they are of mild intensity, they are not accompanied with psychical dissociation unless the control of the emotions as a whole is seriously defective; but in cases where a defect exists that is short of this—cases which do not manifest hysterical symptoms and which may therefore be considered as more or less normal—there is a tendency for incidents occurring in this ‘mitigated’ atmosphere to be easily forgotten, and it is probable that the ‘ordinary forgetfulness’ referred to above is of this nature. Such amnesia is associated with deficient attention, and there is no concentration of consciousness; in such cases it is not that any associations formed are specifically dissociated, as in the case of emotional tones of the higher intensities when control is seriously defective; but rather that there is a lack of attention and a correspondingly deficient activation of associational dispositions of all forms; in short, what a man does not care about, he pays little attention to. And, of course, given that there is serious defect of emotional control, this accompaniment of the mitigated centrifugal emotional tones is all the more marked; there may, indeed, be psychical dissociation in such an emotional atmosphere. In hysteria we have psychical dissociation in the sphere of centrifugal emotional tones of high intensity and also of low intensity in proportion to the defect in the control of the emotions as a whole. In normal human beings there is a tendency to ‘forget’ more readily those incidents or objects that occur in a setting of a centrifugal emotional atmosphere, whether of high or of mitigated intensity, than in that of a centripetal.

ASSOCIATIONAL DISPOSITIONS.

Intimately bound up with the emotional aspect of hysteria is the associational, and as far as the clinician is concerned this aspect presents especial interest in its influence on the symptomatology of

the condition. It is impossible, of course, to enter with any degree of detail into the different varieties of associations that an individual may form in the sphere of an object: we can, however, define certain 'foci' in connection with which associational dispositions may be activated. Such foci are the following:—

ARCHAIC.

Associational dispositions of this group subserve the conative aspects of the specific emotional tones. They are phylogenetically determined, and are inherent in the individual at birth, just as the emotional tones are themselves inherent. They are in this respect independent of the empirical environment.

RECENT.

Primary.

Somatic } Activated in the emotional sphere of wonder.

Exotic }

Secondary.

Somatic }

Exotic }

Activated in any of the emotional atmospheres.

EGOISTIC.

Self-appreciative—centripetally determined.

Self-depreciative—centrifugally determined.

Archaic.—The archaic associations are of course to be seen throughout the animal kingdom, and are in no way characteristic of the human. They have already been mentioned, and they are peculiar as far as the human being is concerned in that they constitute the shortest link between emotional tone and somatic response. In so far as they are uncontrolled, they are the direct unmodified outcome of the emotional tones, preliminary, centripetal, centrifugal, and derived: as far as they constitute one group, they are activated by any or all of these tones.*

Recent.—The recent associations are more or less peculiar to mankind, and are developed in the atmosphere of emotional control and extended anatomical associational dispositions. The two groups, primary and secondary, differ from each other in one important respect among others; the former are to a great extent common to all mankind, whereas the latter are not; the former are general and the latter are personal.

Primary somatic associations are those activated in the individual in relation to his own body, and their total content in the course of time constitutes his consciousness of his body as a body and apart from that of his individuality.

The associations man forms with his body directly are purely

* Or rather, they are activated in association with any or all of them.

regional, and depend in no way upon the anatomical structure or physiological functions of the different regions. An arm is considered as an 'arm', with certain more or less crude regional differentiation; it is looked upon as an entity in itself, and homogeneous with the exception of these regions. Primary somatic associations are never formed so as to differentiate skin, muscles, nerves, vessels, or bones; the limb is considered as one. At the same time there is this regional differentiation represented in the primary somatic associations—hand, wrist, arm, shoulder—but the extent of these regions does not conform exactly in all mankind, nor even in members of the same community. In some cases the hand may be represented associationally as extending well up the forearm; in others it barely comes up to the wrist. The same applies to the regions of the leg. The regional differentiation of the trunk into 'chest' and 'belly' is still more crude, owing perhaps to the relative immobility of the one on the other. The case of the head is rather different; it is not open to visual perception, and at a very early stage in the life history of the individual it is closely associated with certain dramatic functions centring around special parts; in particular, sight and hearing. In so far as any region of the body subserves *ab initio* one function exclusively and specific to itself, so far is such a region associated among the primary somatic group. To the developing individual the eyes are exclusively associated in the sphere of sight; there is an extension of the purely regional association with the functional, and in the case of the eyes the connection is exceedingly intimate. The same applies to the auricle and hearing. In the case of the nose the regional and functional associations are intimate, but not quite to the same extent as in the case of the eyes and the ears; while as regards the mouth and taste it is still less so.

To put this in other words, we may say that any dissociation occurring in the sphere of the eyes or ears affects sight or hearing as well as regional consciousness, and in that of the nose it is liable to affect smell along with such consciousness. But dissociation in the oral sphere does not necessarily involve taste, though it may; and it may or may not involve speech. The probability of such involvement depends on individual associational intimacy. In the case of the eyes and ears this individual element hardly comes in at all; the intimacy is standard among mankind in accordance with the specificity of function of these regions and its exclusiveness to them. And in so far as there is this intimacy of associational activation, this inevitability of association, it is probable that there is a definite inherent anatomical intimacy of the associational dispositions concerned.

Primary somatic associations, activated in relation to parts of the body and their position in space, are elementary and common

to all mankind. They are standard, in other words; and the more such parts of the body are capable of visualization on the part of their possessor, the more definite the associations. They may be defined as more or less inevitable associations common to all mankind in general, and therefore standard, in the sphere of whose activation individual peculiarities play little or no part (short of concrete anatomical defect).

As regards the emotional tone operative in the activation of these direct subjective associations, this would appear to be derived from the sphere of wonder, with the more or less rapid evolution of familiarity.

Primary exotic associations are not so defined as the somatic, and they are subject to rather more individual variation than the former. They conform to the primary group rather than to the secondary in that the dispositions activated are common to mankind in general; at the same time they are more 'evolved' than are the associations of the primary somatic group; on the other hand, they are more 'inherent' than those of the secondary; they must be looked upon as belonging to the former rather than the latter group, for whereas their presence in some form or another is a necessary attribute of healthy human psychology, the same cannot be said for the secondary; although psychically normal individuals may form practically no secondary associations, they always form primary, somatic and exotic.

Primary exotic associations differ from the somatic in that objects external to the individual are essential components of their activation. At the same time, the associations so formed are what may be called 'obvious'. The associational content of this atmosphere is very large; it forms the basis of an individual's 'knowledge of the world'. Given that two people were to experience similar environments, their primary exotic associations would be the same.

To take an example, we may mention the following as some of the primary exotic associations formed round the central incident 'bird': Appearance—colour, size, shape; eggs; nest; flight; song; wings; feathers; etc. These are the inevitable associations that any man who has seen a bird forms, and the same may be said for all the associations of this group.

The primary exotic associations have a more extensive bearing on behaviour than the somatic, and a more essential bearing than the secondary. Thus, in the sphere of primary exotic associations activated around the central incident 'snake', will be prompt and efficient escape; round that of 'water' will be drinking or swimming; in the sphere of primary exotic associations grouped around the conception 'hill' will be climbing; and so forth.

The primary exotic associations, in that they are common to the majority of mankind, form a sphere in which standard behaviour, appropriate to the environment responsible, is perfected.

We have seen in the case of the non-human animal that such appropriate behaviour is perfected in the atmosphere of a centrifugal emotional tone, the operation of psychical dissociation being an essential factor in the process. In such animals, behaviour other than appropriate, in so far as it endangers the animal, is associated with a reinforcement of the centrifugal emotional tone and dissociation ; the faulty paths, on a recurrence of the situation, are less available for use. In man, with emotional control well developed, this mechanism is non-operative, or only operates to a minor degree ; with the increase of the associational dispositions available, the absence of psychical dissociation coincident with the degree of emotional control being accompanied with memorization, man gains his experience as far as his behaviour is concerned in the sphere of memory and not of dissociation.

This postulates a further extension of primary exotic associations in accordance with specific experience, and here there is danger of confusing such associations with the secondary variety. As a general rule we may recognize exotic associations as primary when they are readily understandable by other people ; anyone would readily appreciate the association of flight with bird for instance, but associations may be encountered which are not so intelligible at first hearing, and may yet be primary. In such cases they are specific experience associations rising in connexion with primary exotic associations, and comparatively slight investigation will render their nature apparent as such. And it may be said that the more there are of these specific primary exotic associations, the greater the probability that the individual has formed his experience apart from the sphere of psychical dissociation.

In the event of there being defective control of the emotions as a whole, with coincident concentration of consciousness, non-diffusibility of emotional disturbance through available associational dispositions, and psychical dissociation in the atmosphere of centrifugal emotional tones, we have a reversion to the non-human mechanism ; the specific-experience aspect of the primary exotic association dispositions is not developed ; such associations being 'simple' or 'obvious'.

Secondary associations are those which are entirely peculiar to the individual, being explicable only by a complete and intimate knowledge of his history. They are activated in connexion with the body and in connection with external objects. These may be referred to as the *somatic* and the *exotic* secondary associations respectively.

The differentiation into these two varieties is in no way definite ; one fades into the other after the manner of the colours in a spectrum. They constitute useful foci for the discussion of indirect associational dispositions, but they do not form groups in the way that the somatic and exotic primary associational dispositions do.

It is not possible to describe in any detail these different varieties of indirect associations ; their extent and range is only limited by the extent and range of experience. They are of all degrees of complexity, and often enough an association that may seem fairly obvious is in reality profoundly personal. It has been mentioned above that the modifications of experience lead to what at first hearing seems to be inexplicability of association in the sphere of the primary exotic dispositions ; the converse holds in the case of the secondary, an apparently simple association being in reality the outcome of a more or less exclusive personal happening.

The intrusion of any part of the body into a sphere of consciousness focused around *anything*, concrete or abstract, other than that particular part, is liable to be accompanied with an association of that part of the body with the incidents present in consciousness at the time. The same applies to objects other than the parts of the body ; and the greater the concentration of consciousness prevalent at the time of the intrusion, the more definite the association between the intruding agent and the object upon which consciousness is concentrated. Greek irregular verbs, for instance, may be associated very definitely with the gluteal region of the body ; they may likewise be associated with the epigastrium, owing to incidental and coincident pressure upon that part of the body at the time of the association ; and if, in the atmosphere of a centrifugal emotional tone, there is sufficient lack of emotional control, there may be a dissociation of the gluteal region in the sphere of this association, with perpetuation of the epigastric element ; in so far as there is this dissociation, contemporary associations are activated and there is hysterical epigastric pain when and if an analogous emotional tone intensity be again encountered. In people with normal emotional control there is no such dissociation, and what we have is a secondary somatic association of 'βαλλω' with 'stomach'. Or again, take the case of an individual who, as a boy, had to attend personally his father who suffered from gastric ulceration. Prominent symptoms of this condition are, of course, vomiting and pain in the back ; the boy has to 'rub' the back for the pain. He associates 'stomach' with 'pain in the back' as a secondary or personal association of the somatic variety. The above are more or less simple types of the somatic secondary associations ; in others the mechanism is more complex in that there are more intermediate 'links'.

In the case of exotic secondary associations the range is even more extensive, for here we have associations activated as a result of reading in addition to actual experience. As a result of reading *Oliver Twist*, for instance, sausages may be associated with thieves and oysters with beads; of course, the range of such associations may be enormous. The association of 'leaf' with 'tree' is of the exotic primary order, and is common to the majority of mankind; the association of 'tin' with 'tree' is secondary and exotic, and develops as a purely personal association in the sphere of a definite specific incident peculiar to that person. In the sphere of these exotic secondary associations, activation of dispositions in the atmosphere of deduction and inference proceeds, forming, so to speak, an ever-extending 'periphery' of which the exotic secondary associations are the nucleus.

Although the consideration of recent associational dispositions, from the standpoint of their being primary and secondary, is useful from the clinical aspect in that they constitute a basis for the separation of individuals into types, from the point of view of the associations themselves we might regroup them as follows:—

1. SOMATIC.

Primary.—Direct, obvious, and common to all mankind; activated extremely early in the history of the individual, and subserving consciousness of the body in relation to the ego or individuality.

Secondary.—Not obvious; peculiar to the individual and activated later in his history; such activation proceeding with the life of the individual up to such time as the emotional power begins to fade, or, theoretically, all the available dispositions are activated. These secondary associations may be looked upon as developing in, out of, and beyond the sphere of the primary, and subserve consciousness of the body in relation to the extra-corporeal environment.

2. EXOTIC.

Primary.—Direct, obvious, and common to the majority of mankind; activated early in the history of the individual, but later than the primary somatic, and subserving consciousness of the environment as such: of relations between objects in the environment apart from the body.

Secondary.—Indirect; not obvious; peculiar to the individual, and activated late in his history. Activation in this group proceeds *pari passu* with the life of the individual, and fades with the fading of the emotional driving power. They develop in, out of, and beyond the primary exotic sphere, and contain the germ of inference, deduction, and 'ideation'. They subserve the extension of consciousness in relation to the extra-corporeal environment, and embrace, in addition to actual experiences, potential experiences as well.

From the point of view of clinical medicine, however, it is more convenient to group the primary associations together and apart from the secondary. From the developmental point of view the former precede the latter; the external environment has a more powerful influence upon the latter than the former. Individuals deficient in associations of the secondary group are readily imaginable and are quite capable of useful life; the same does not hold in the case of the primary associations, defect in whose sphere is always related to gross mental deficiency. It is not particularly useful to discriminate too minutely between these different associations, but we may say that the primary somatic associations are the most inevitable and the secondary exotic the least.

It has already been mentioned that the associational dispositions subserving the primary somatic associations are activated in the emotional atmosphere of wonder for the most part. Those of the primary exotic, the secondary somatic, and the secondary exotic may be activated in the spheres of any of the emotional tones; in the secondary somatic group the emotional tone of wonder, though it may be operative, is not so to any great extent.

Egoistic.—The egoistic associational group differs in many respects from those already considered. The individuality or ego of a man is not an unchanging factor as is his body and the objects in his environment. It is, or ought to be, a constantly changing factor; and is to be looked upon, among other things, as a resultant of the environment on the different associational groups discussed above, being related to both in much the same way as the ultimate shape of a jelly is related to the material used and the mould into which it is poured. Given a uniform environment of adjustment common to all members of a community, we have three great types of individuality, as resultants of associational dispositions activated in (*a*) an environment of determination that is defective in its association with centrifugal emotional tones; (*b*) an environment of determination that is similarly defective as regards the centripetal tones; and (*c*) one in which the balance of these tones is normal, that is, one in which the proportion between associational dispositions activated centripetally and centrifugally is associated with an individuality which conforms to the majority in the environment of adjustment. In the first case we have an individuality or ego that is centripetally determined, in the second one that is centrifugally determined, and in the third one that is normal as far as the community is concerned.

In the early phases of the life of an individual, at a time when associations of the primary somatic order are being formed, the developing ego is purely autocratic, and develops for a time for itself

alone. The infant at birth in no way subordinates its want or its wishes to its surroundings; it behaves as though its ego were the only factor for consideration. The primary somatic associations, activated by wonder, form in this atmosphere, and, to some extent, the primary exotic associations also. In the course of time, if the environment of determination be normal, other primary exotic and the secondary associations form in the atmospheres of centripetal and centrifugal tones in normal proportions; in accordance as this is so, the determination of the ego progresses normally to its adjustment.

In the event, however, of the environment of determination being faulty and being associated with an abnormal preponderance of associations formed in the one group to the exclusion of the other, we have an ego that is maladapted to the environment of adjustment. If, for instance, the environment of determination be such as is associated with lack of control of the emotions as a whole, we have dissociation in the sphere of the centrifugal tones and an undue preponderance of the centripetally activated associations, and the ego is centripetally determined.

Such centripetal determination of the ego is an essential associate of hysteria. In so far as such an individuality is maladapted to the environment of adjustment, in accordance with his inability to alter this environment is his ego liable to insult and distress; and in proportion to the maladaptation, it is protected in such circumstances by its withdrawal from the offensive surroundings and isolation. In the case of the centripetally determined ego the mechanism of this withdrawal is ready to hand: the operation of psychical dissociation developed in the sphere of a faulty environment of determination; lack of control of the emotions as a whole.

In a centrifugally determined ego, psychical dissociation is of necessity inoperative; people of this type will be discussed subsequently when dealing with the mnemoneuroses.

Given that the ego is centripetally determined in the sphere of psychical dissociation—given, that is, that the individual is hysterical—we have in addition a tendency to ‘fixation’ of the ego. This follows from what has been mentioned above when dealing with psychical dissociation in the atmosphere of mitigated centrifugal emotional tones; where it was said that, in proportion to the deficiency of emotional control as a whole, the operation of dissociation extended into the atmospheres of centrifugal tones of diminished intensity. Normal people, for quite a considerable part of their lives, modify their empirical egos in accordance with their environment of adjustment; however correct the environment of determination may have been, and however smoothly it merges into that of adjustment, there are differences between the two that are responded to on the

part of a properly determined ego by variation of the empirical ego. But in the case of a centripetally determined ego, *any* element in the environment that is 'new' tends to be distasteful, to be subjected to the process of dissociation with absence of alteration of the empirical ego; such ego not developing, and being, in fact, fixed.

Egoistic associations therefore differ from the associations of the archaic and recent groups in that they are not so much associational dispositions specifically activated under the influence of an emotional tone, as the resultant of centripetal- and centrifugal-determined associations of these groups; in the case of hysteria the available egoistic associational groups are the centripetal, and the ego is centripetally determined.

As far, then, as hysteria is concerned, we may summarize the essential associates as follows:—

1. A faulty environment of determination.
2. Lack of control of the emotions as a whole.
3. The operation of psychical dissociation in the sphere of centrifugal emotional tones; limitation or 'concentration' of consciousness and non-diffusibility of the emotional disturbance in the atmosphere of these tones, and extending to centrifugal tones of diminished intensity in proportion to the deficiencies of (1) and (2).
4. Centripetal determination of the ego and ego-fixation. The attitude of an hysterical individual to his ego is strictly analogous to that of a mother to her child.

BEHAVIOUR OF THE HYSTERICAL INDIVIDUAL.

Bearing in mind the attitude of an individual to his ego developed in an atmosphere characterized by defective environment of determination, lack of emotional control as a whole, and psychical dissociation, we may now discuss his behaviour in relation to dissociated incidents, represented environmentally as objects associated with centrifugal emotional tones of high intensity, and psychically by dissociation of such objects from memory and perpetuation of the somatic associates formed at the time. In the case of the non-human animal there is dissociation of the incident responsible for the tone, and definition of the appropriate somatic associations, which definition is perfected in the course of time by the recurrence of the emotional tone evoked by the specific object or objects.

Primary Hysteria.—Suppose now a child whose emotional control is relatively defective encounters as a primary incident a man

in an epileptic seizure. There is concentration of consciousness and dissociation of the central incident in so far as this has been associated with the centrifugal tone accompanying the limitation of consciousness. The associational dispositions activated at the time 'around' the dissociated central incident may be archaic or of the primary exotic or secondary groups, according to the trend of activation in the child up to that time. In the first case we have immediate headlong flight. The emotional tone is 'relieved' by this behaviour; the central incident is dissociated, and the child regains his peace of mind. The incident is lost as far as the empirical ego is concerned, but the associations and the emotional tone accompanying their activation are liable to recurrence. The vitally important point to remember is that *whenever such a child, as a child or as a man, experiences an emotional tone of the centrifugal order in similar intensity, there will be the same blind headlong flight without any memory of the primary incident, however recent it may have been.*

It does not follow that the specific incident—the epileptic attack in this case—must always be associated with this response. The most hysterical man is emotionally controlled relatively to the non-human animal, and the more frequently the primary incident is encountered by the child as he grows up, the greater is the tendency for that particular incident to be deprived of its emotional intensity. It is not in any way that the primary incident itself becomes inoperative; it is that the emotional value of the primary and the specific incident is liable to variation in accordance with the frequency of occurrence of the latter and the development of the elements of emotional control in the individual. If we have an ideally uncontrolled individual, then the specific incident approaches in emotional value to the primary, and hysterical flight would be manifested whenever epilepsy is encountered. But, given that we have a dissociated primary incident in the atmosphere of an intense centrifugal emotional tone, the subsequent acquisition of emotional control cannot obliterate hysterical flight if and when an equally intense centrifugal emotional tone is aroused in after life, although the likelihood of the occurrence of such an intensity lessens in accordance with the emotional control gained. The more common the specific incident, the less likely is it to bring about such a response *in itself*.

Suppose now the associational dispositions activated around the primary incident to be of the primary exotic group; the mechanism is the same, but the manifestations are liable to great variations. Such associations may be those of falling, of twitching limbs and grinding teeth, of screaming, rigidity, burning, electricity, and

so forth. There is dissociation of the central incident in the atmosphere of intense centrifugal emotional tone. Subsequent evocation of such a tone in similar intensity will be associated with the above—one, some, or all of them—as hysterical manifestations; falling about, jerking of the limbs, clenching of the teeth, shrieking, immobility of the body, sensations of being on fire, tingling, etc. But there is no conscious association of the central incident with these symptoms; also, as said above, the specific incident in the course of time, after several encounters, may in itself diminish its emotional value.

Secondary somatic associations may be formed in the atmosphere of the primary incident; and we may have hysterical 'pain' in regions of the body brought about by pressure of the crowd; hysterical spasm of the calf muscles as a form of saltatory spasm determined by standing on tiptoe. In the case of a child, and in the epileptic atmosphere, secondary exotic associations are not particularly common, although possibly the 'battery' element referred to above might be classed in this group.

It has been mentioned above that associational dispositions may be re-activated by the recurrence of the emotional tone operative at the time of their initial activation; the same forming the basis of memory in man. The recurring emotional tone need not be of the same intensity as that originally at work; but in the absence of any dissociation, the nearer it approaches its original intensity the more elaborate the memory evoked.

It is equally true that the activation, through perception, of associational dispositions is liable to recall in a mitigated intensity the emotional tone operative at the time of their original activation; and the more specific these associations, the more intense is the recalled emotional tone. That is, the less frequently such associations are re-activated, the more intense the emotion evoked when they are.

Phobias.—Now suppose that the primary incident is intrusive in a definite specific concrete environment from the standpoint of associational dispositions, and suppose such an environment be not encountered again for many years. When, under such circumstances, it is encountered, the original intense emotional tone may be re-invoked and the somatic manifestations of the primary incident become obtrusive as hysterical symptoms. But this is not commonly the case, for the recalled emotional tone tends to be less intense than it was at the time of activation; what we usually have in a surrounding of this kind is the experience of a centrifugal emotional tone of different degrees of intensity. And in accordance as the environment is not specific, but has been encountered frequently

in the absence of a centrifugal emotional tone, so is the intensity of the tone lessened in it. In this way we have environments associated with fear or discomfort; and in that they are in a setting of a dissociated incident, no apparent reason is available for such a tone. This is the basis of the 'phobias'.* the experience of a centrifugal emotional tone for no apparent cause in surroundings into which at one time a primary incident intruded and was dissociated. Reverting to the illustrative epileptic seizure: If this occurred in an open space such as a field in such a way as to render the field an associate of the fit, then subsequent loneliness will tend to be associated with a sense of terror. If no dissociation of the primary incident had occurred, all that would be experienced would be the memory of the fit, and the individual would have realized that the surroundings were distressing owing to his having had a repellent adventure therein. But if the seizure has been dissociated, no such explanation is forthcoming; the distress is unaccountable and all the more striking, and we have agoraphobia. And, as indicated above, the more specific the surroundings are to the primary incident in the environment of determination, the more intense the phobia in the environment of adjustment, up to the point of an exclusively specific environment being associated with an emotional tone of sufficient intensity to evoke hysterical behaviour determined by the associations of the primary incident. But this latter intensity is not commonly brought about in this manner.†

In accordance with the activity of psychical dissociation in an individual is the centripetal determination of his ego, and that relative defect of available experience which is the basis of suggestibility.

* The following description applies to the true phobias, which are purely hysterical. It will be seen later that the term 'phobia' is also applied to conditions which are not hysterical, in so far as a dissociated incident is not at the root of the symptoms, but which occur in certain forms of the mnemoneuroses. In true hysterical phobias behaviour is only abnormal in a specific environment, whereas in the second group it is constantly so.

† The recall of emotional tones through associations previously activated with impulsive behaviour is strikingly described by Dickens in *Barnaby Rudge* (Chapter LV). In this case one of the characters had committed a murder many years before, and at the time of the crime the victim had clutched the alarm-bell rope and caused the bell to toll. At the time, also, a thunderstorm was raging. Some twenty years after, the murderer was in the neighbourhood of his crime under circumstances resembling the storm, and the alarm bell was rung. He impulsively goes through the actions of killing, in an atmosphere of intense emotional disturbance. If no memory of the primary incident were present, then these actions would be hysterical. From the context, of course, definite memory of the primary incident is very clearly implied, and the case is illustrative of the recall of an emotional tone in great intensity through an association formed at the time of its occurrence and re-activated in its atmosphere.

Secondary Hysteria.—In a preceding section, when discussing the behaviour of non-human animals in the presence of pain, it was pointed out that when pain occurred in such animals in an atmosphere of a centripetal emotional tone, in addition to dissociation of the cause of the pain there was dissociation of the pain itself; the animal in such circumstances being able to carry on its reproductive duties. In the case of man with a centripetally determined ego, the same principle applies; in his case the centripetal emotional tone is directed not to his offspring but to his own individuality, and in the event of his experiencing any pain there is a tendency to dissociate the pain and to preserve his peace of mind. Pain in mankind is not considered as a thing in itself so much as a painful part of the body, and the dissociation of the pain is accompanied with dissociation of the part of the body that hurts. The symptoms of such dissociation are determined by the primary somatic associations.

It is obvious, in the presence of a painful hand or foot, that one way out of the difficulty is to cut that hand or foot away from consciousness and carry on in comfort; and as long as the individual is able to carry on in comfort, the dissociation has served its purpose. And remembering what has been mentioned, that the primary somatic associations are activated around the limbs as units, without differentiation into anatomical systems, we see that any dissociation among such associations is accompanied with loss of sensation and loss of mobility of that limb or part of that limb. The parts affected are simply cut away from the patient's world; they cease to exist as such for him. Given that 'pain in the leg' has been a determining factor, then the extent of the anæsthesia is the patient's own idea of 'leg'. Similarly, pain in the ear is liable to be accompanied with anæsthesia of the associated area, and also with deafness; pain about the eyes with blindness and associated anæsthesia.

As an extension of the principle that painful areas of the body are dissociated from consciousness in the sphere of a centripetally determined ego, we have analogous dissociation for painful impressions other than cutaneous; ugly sights and sounds are liable to be associated with hysterical blindness and deafness respectively, the ego being isolated and protected.

Again, memories themselves may be dealt with in this way if they are sufficiently distressing. The individual may be among surroundings that are distasteful; or surroundings, of themselves innocuous, may become distasteful through their association with some unpleasant event; unpleasant, but not sufficiently so to be dissociated in accordance with the mechanism of the primary

hysterias. An hysterical amnesia is liable to develop for these surroundings.

Anæsthesias, deafness, blindness, paralyses, and amnesia brought about in this way may be called for the purposes of reference secondary hysterical manifestations; those previously discussed as arising around the dissociation of a specific incident, with definition of the associations formed at the time, being referred to as primary. There is no real distinction between the two; the former is an extension of the latter, and each is liable to reinforce the other. In both types we have an individual developing in a defective environment of determination, with accompanying lack of emotional control as a whole, and psychical dissociation; in the secondary group the centripetal determination of the ego has progressed and is progressing in the atmosphere of centrifugal emotional dissociation characteristic of the primary. In accordance with the extent of the dissociations that occur is the degree of centripetal orientation of the ego, and the readiness with which it is isolated and protected by the cutting away from consciousness of those regions of the body (psychically represented by associations of the primary somatic variety) which are regarded as being responsible for unpleasant afferent impulses. The actual manifestations of the primary variety may resemble those of the secondary; in the case of a specific primary incident the associations defined at the time may have been, among others, those of paralysis of an arm, as a secondary somatic association. But in such cases the actual manifestation is of the nature of kinetic behaviour; the arm is *held* useless (if and when such manifestation is evoked in the environment of adjustment), whereas in the paralysis of the secondary or protective type the limb is limp; it is non-existent from the standpoint of the empirical ego.

Tertiary Hysteria. Rôle of Suggestion.—As the individual grows up in an atmosphere of dissociated centrifugal emotional-tone incidents on the one hand and centripetal determination of the ego on the other, we have a progressive defect of available experience and diminution of critical judgement as regards his own self. As regards the empirical ego, the things that happen are the things that ought to happen; ultimately, as an extension of this, the events that are expected to occur will occur; and finally—as regards the empirical ego—only those things will occur that are expected to occur. If an unexpected event occur in a centrifugal emotional-tone atmosphere it is dissociated; in a centripetal it is accepted, thereby increasing the centripetal orientation of the ego; and in the end all events that are expected take place or are dissociated. In developed hysteria we have behaviour determined by expectation, or, as it is usually

called, by suggestion, and such behaviour may be referred to as tertiary hysteria.*

As an example we may take the case of a patient who has formed associations of the secondary somatic variety in the sphere of 'splint' and 'injury to the foot'. He may, for instance, have come across a case in which a splint has been applied to the leg for a foot injury. For some reason or another, say for a wound in the thigh, the leg has

* Expectation must not, of course, be looked upon as synonymous with suggestion, but the two processes are closely associated. The latter is the psychical completion of the former, and for the purposes of medicine may be considered as psychical completion which is not associated with somatic completion. Under certain circumstances, for example, we may expect pain in the arm; if under these circumstances we feel pain in the arm in the absence of any 'physical' cause, then such pain may be described as 'suggested'. In the absence of any element of expectation there is no suggestion.

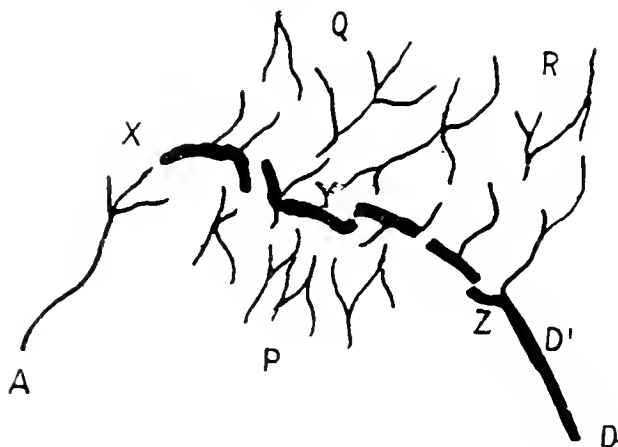


Fig. 2.—X, Y, Z. Splint—injury to foot associations.
D'. Motor mechanism for inversion of foot, predetermined for protection of foot.

The mechanism is closely allied to the diffusion and non-diffusion of emotional-tone disturbance mentioned above, and we may perhaps as a speculation visualize a scheme as follows (*Fig. 2*). If we take A as the perceptive path and D the path subserving concrete somatic behaviour, we have P, Q, and R as anatomical associational dispositions activated in the sphere of 'arm'. In a normally constituted person with a proper diffusion of his centrifugal emotional-tone disturbance, these associational dispositions have been more or less equably activated in the environment of determination, and the re-activation of any one of them in the atmosphere of a centrifugal emotional tone activates a multitude of others: the emotional tone is normally diffused. But in the case of an individual who has grown up in the hysterical atmosphere this diffusion does not occur, and there is a concentration of the emotional tone disturbance through specific dispositions with more or less inevitable activation of predetermined somatic associational dispositions and correspondingly certain behaviour. If the concentration be sufficiently intense there is of course dissociation, with definition of somatic associates: but, as mentioned above, this concentration is unlikely to occur in the case of an emotional tone secondarily evoked through collateral associations. Behaviour determined by expectation is allied to the behaviour determined in the sphere of a dissociated specific incident, but falls short of it just in so far as the emotional tone is secondarily induced through the activation of collateral associations—that is, through expectation.

to be immobilized on a splint; the associations—splint—injury to the foot, are activated, and in accordance with his tendency towards non-diffusion of centrifugal emotional tones (one of the indices of his hysterical determination), pre-determined somatic associational dispositions are activated so as to put the foot into a position of defence; it is held inverted in the equinovarus position—a tertiary hysterical manifestation. Elements in the constitution of tertiary hysterical manifestations then would be:—

1. A tendency towards non-diffusion of centrifugal emotional tones, and that which goes with such a tendency, centripetal determination of the ego.

2. The re-activation of associational dispositions through collateral associations, and the induction secondarily of a centrifugal emotional tone.

3. The availability of somatic associational groups subserving specific body movements, such availability depending among others on the frequency with which such groups have been activated. Such previous activation need not necessarily have been accompanied with concrete body movements, but may have remained 'ideational'; and this form of hysteria is of special interest, because it is, of the three varieties, the one which materializes as hysterical behaviour the associations, 'ideas', and 'imaginary' incidents formed by the individual as an outcome of reading, introspection, and so forth. The tertiary hysterical fit represents the ideas that the patient has formed of an epileptic attack, and, as mentioned above, manifestations of this group only differ from those of the primary group in the intensity of the emotional tone at work. In the former it is re-invoked through collateral associations, whereas in the latter it is primary; in the latter the intensity is sufficient for it to be accompanied with psychical dissociation; in the former it is not.

The 'reality', from the standpoint of the empirical ego, of body memories or associations activated centrally instead of peripherally (re-activated, that is, through collateral associational groups instead of through impulses passing up through the peripheral nerve) may be very great indeed. This is interestingly brought out in a consideration of the 'phantom limb', patients who have had a limb amputated remaining acutely conscious of the absent member for the rest of their lives. The phenomenon of the phantom limb is common to the majority of mankind who have suffered amputation, and it cannot entirely be explained on the grounds of impulses passing up the residual nerve-trunks involved, for the younger the patient the less likely the phenomenon. My friend Mr. Jefferson, of the Salford Royal Hospital, has described cases to me in which the phantom limb has been the site of severe pain of a nature which will

be considered when dealing with the condition known as 'causalgia', and in such cases we are dealing with men whose egos are centripetally determined; into the sphere of whose 'leg' or 'arm' associations causalgic pain has entered. Such men, when the sphere of these associations is activated, have an 'expectation' of the pain in an atmosphere of centrifugal emotional-tone concentration proportionate to the centripetal orientation of their ego, and in proportion to this orientation the expectation is fulfilled by suggestion.

The rôle of suggestion in hysteria has been emphasized lately by Babinski and Froment, and there is no doubt that such rôle is important. But suggestion does not play an exclusive part in the genesis of hysterical symptoms, and is most certainly not the 'cause' of them; it is a psychical property that develops in the 'hysterical atmosphere', the elements of which are: defective environment of determination, lack of emotional control as a whole, psychical dissociation; centripetal orientation of the ego, fixation of the empirical ego, lack of available experience, and fulfilment of expectation. And to summarize the foci around which hysterical symptoms arrange themselves for inception we have:—

1. Psychical dissociation with definition of the somatic associations activated at the time in an atmosphere of uncontrolled centrifugal emotional tones: *primary hysteria*.

2. Centripetal determination of the ego with its isolation from uncomfortable somatic impressions: *secondary hysteria*.

3. Non-diffusibility of centrifugal emotional tones accompanying the re-activation of preformed associational groups, with proportionate inevitability of predetermined somatic response, the inevitability differing from that in the primary hysterias just as the intensity of the re-invoked emotional tone differs from that of the emotional tone at inception: *tertiary hysteria*.

But if suggestion plays but a subordinate part in the formation of hysterical manifestations, it plays an important rôle in their perpetuation.

Hysterical Manifestations and their Perpetuation.—Given that an individual has developed in the hysterical atmosphere, in what way do his symptoms become manifest; and when they are manifest, what is the mechanism of their persistence?

Many people may be hysterical and never show obtrusive symptoms at all; in fact it is probable that all mankind is hysterical to a certain extent; dissociations are to be found in the generality of people; normal men show a tendency towards centripetal orientation of their egos; and expectation is completed by suggestion in many. But only a relatively small proportion show obtrusive

hysterical symptoms, and such men must be taken as being at the lower end of the scale of human psychical evolution; to have developed in an environment of determination that has been grossly defective as far as emotional control is concerned.

In the event of a patient in the environment of adjustment experiencing a centrifugal emotional tone of an intensity similar to that which has been concerned with the dissociation of a primary specific incident in the environment of determination, the somatic associations defined on that occasion are re-activated as hysterical behaviour, and the patient is unable to associate this behaviour with any previous experience; it is entirely strange, and is in no way associated with memory. The patient behaves in a manner analogous to that which normally obtains among the non-human animals, only in his case the somatic associations re-activated may be, and often are, other than archaic. Such hysterical behaviour is impulsive and involuntary, and can no more be checked under the circumstances than the impulse to flight can be checked in a frightened mouse. And if the patient is in no way interfered with, whenever such a centrifugal emotional-tone intensity is experienced, the corresponding reaction results, and results more and more promptly and more and more definitely. In each case the emotional tone is relieved by the somatic response, and the patient in the intervals is mentally peaceful and composed.

The Factor of Expectation.—But now at this stage another element enters; once the patient has behaved hysterically in the environment of adjustment there is a very great liability indeed for the expectant factor to operate, a factor which develops *pari passu* with the hysterical atmosphere. The patient associates a particular sight, sound, or sensation with specific behaviour on his part as a result of the impulsive behaviour in the sphere of the recrudescence emotional tone, and whenever he expects such behaviour there will be a tendency to completion of such expectation by suggestion, in accordance with the perfection of the hysterical atmosphere in his case. And quite naturally in such people there is a more or less inevitable extension of the particular to the general; if the centrifugal emotional tone accompanying the dissociated primary incident in the environment of determination be in the course of time 'revived' by an exploding bomb, the patient is inclined to expect his automatic behaviour whenever he encounters a noise, and ultimately behaves in this way whenever he hears a door slam.

It is probable that primary hysteria is short-lived, reverting after the initial attack into the tertiary group, for the most part; but it must be remembered that in the event of a patient having dissociated incidents in the environment of determination, the expectation

attacks which follow the primary manifestation are always liable to be reinforced by other primary manifestations if and when a centrifugal emotional tone is experienced of sufficient intensity. The factor of expectation and its completion by suggestion is of fundamental importance in the perpetuation of hysterical symptoms, not only of the tertiary group, but of the primary and secondary as well.

The Factor of Centripetal Orientation of the Ego.—But in addition to the element of expectation, perpetuation of symptoms is facilitated by the centripetal orientation of the ego in untreated cases. There is a natural but most unfortunate tendency for hysterical symptoms to be regarded as manifestations of an illness, and the patient in consequence finds himself the centre of attention and in an immediate environment of comfort. In so far as this new environment—which is, so to say, an exotic environment of adjustment particularly adapted to the hysterical patient as such—persists, there is a tendency for the responsible symptoms to persist also, and this is especially so in manifestations of the secondary variety. Such a method of treatment, inasmuch as it conforms to the orientation of the ego characteristic of the hysterical individual, maintains the *status in quo* of all hysterical manifestations.

So that, although from the standpoint of the genesis of hysterical symptoms in the environment of adjustment we have as specific factors:—(1) The re-activation of somatic associations around a dissociated incident of the environment of determination in the atmosphere of a centrifugal emotional tone of similar intensity to that which accompanied the dissociation, (2) the dissociation of body regions from consciousness in an atmosphere of pain, and (3) the completion by suggestion of expected somatic behaviour, from the point of view of perpetuation of the symptoms so determined, after their first manifestation, we have the factors of expectation and its completion by suggestibility, operative mainly in the first and third groups, and the factor of centripetal orientation of the ego, operative in all three and especially in the second.

Change from Involuntary to Wilful Character of Symptoms in Neglected Cases.—In the course of time, in patients who have been untreated or who have been educated in their symptomatology, and have had their condition fostered by care and attention during their attacks, there is a tendency for these symptoms to recur with greater and greater readiness; they are instrumental in the creation of an environment of adjustment that is peculiarly acceptable to the hysterical psychology. The patient constructs a multitude of associations around his condition, until anything that rouses in his conscious mind an emotional tone of the centrifugal order, even in mitigated intensities, is liable to be associated with recurrence

of his symptoms and the formation of an environment especially adapted to his centripetal determination. In the end we may have a definite desire for this environment; a definite desire for the symptoms that are associated with it. Such symptoms then are purposeful and conscious; they cease to be hysterical, though occurring in an hysterical individual. In other words, in untreated cases or cases that have been badly treated, behaviour tends to depart from the automatic and involuntary and to become wilful in the atmosphere of centripetal orientation of the ego. Of course, the more unacceptable the common environment of adjustment may be, and the more inevitable the new environment of care and attention, the greater is the tendency for the persistence and perpetuation of the specific hysterical symptoms, and for their ultimate occurrence in the sphere of consciousness.

SUMMARY.

1. From the standpoint of developed hysteria, the following factors have especial value in the evolution of the individual: environment, emotional control, and associational dispositions activated.

2. The environment is to be considered under two heads: that of determination, in which the individual is brought up and which is more or less peculiar to him; and that of adjustment, which is common to all members of the community in which he has to live and work.

3. The environment of determination is associated with the degree of emotional control attained, and also with the presentation of primary specific incidents.

4. Primary specific incidents are 'occurrences' which are possessed of positive or absolute value in their centrifugal emotional-tone content on the first occasion of their presentation to the individual.

5. Incidents possessing a correspondingly absolute value as regards their centrifugal emotional-tone content in the environment of adjustment are called 'specific incidents'.

6. Defective environment of determination is liable to be associated with lack of emotional control as a whole.

7. Sufficiently defective environment of determination, with correspondingly sufficient lack of emotional control as a whole, is associated with the operation of psychical dissociation in the atmosphere of a centrifugal emotional tone; the mechanism then being comparable to that which obtains normally among non-human animals. As in the case of non-human animals, such psychical dissociation is accompanied by definition of the somatic associations formed at the time.

8. Lack of emotional control as a whole, with numerous psychical

dissociations, is associated with centripetal orientation of the ego and completion of expectation by suggestion.

9. The associations formed by mankind in the environment of determination may be broadly classed as archaic, recent, and egoistic. The egoistic associations are determined in association with, and as an outgrowth from, the archaic and recent groups; in a defective environment of determination, with lack of emotional control and psychical dissociation in the sphere of centrifugal emotional tones, such egoistic associations are centripetally determined.

10. Hysterical manifestations occur in centripetally determined individuals with many dissociated systems and in whom expectation tends to be completed by suggestion.

11. Such manifestations at their inception may be classed as primary, secondary, and tertiary, according to the factor mainly operative in their genesis. The primary manifestations are concerned with the somatic associations activated in the atmosphere of a dissociated primary specific incident in the environment of determination; the secondary with dissociations of primary somatic associations in an atmosphere of discomfort; and the tertiary with behaviour on the part of the body in response to an expected source of discomfort associated with that part.

12. This differentiation of the three groups is purely from the standpoint of genesis; there is a tendency for them to be associated in their subsequent course. This applies especially to the primary and tertiary groups.

13. The perpetuation of primary and secondary hysterical behaviour is associated with expectation, such cases then reverting to the tertiary group. The persistence of secondary hysterical behaviour is also concerned with the centripetal orientation of the ego *par excellence*, but all forms of hysterical behaviour are reinforced by this orientation.

14. Expectation probably plays a part in the persistence of secondary manifestations, but not to the same extent as in the case of the primary and tertiary. From the point of view of the subsequent course of an hysterical manifestation, the three groups of inception behave as two, the expectant and the egophilic.

15. In the course of time, in cases that are badly treated or fostered, there is a tendency for hysterical symptoms to lose their automatic and involuntary character and to become conscious and wilful in the atmosphere of expectation and centripetal orientation of the ego, which is being continually strengthened in this way.

CHAPTER V.

HYSTERIA* (*continued*): **SOME CLINICAL ASPECTS.****ETIOLOGICAL FACTORS.**

SEX.—Hysteria in times past has shown itself most frequently in the female sex; it occurs among men, but the emotional value of the environment of adjustment has to be great before men in any number break down.

Its frequency in the female sex is due in the main to the environment of determination which surrounds the developing girl, which does not favour emotional control or the proper balance between centripetal and centrifugal associations in the sphere of which the ego is being determined. Among the children of any modern communities—and it is essentially among the children that the correct orientation of the ego is determined—there is a tendency to defer to girls just because they are girls; illogical and erratic behaviour is condoned on this account; girls grow up among surroundings in which it is considered right that they should receive what they want at the expense of their boy-companions. This inevitably brings about a wrongful orientation of their egos, and is inimical to the proper control of their emotional tones. The education of girls with boys in no way prevents this tendency towards centripetal orientation of the ego among the former; it may indeed favour it, for the most headstrong boy hesitates before using his fists against a girl, and the majority of boys give way when a girl begins to cry.

There is, however, another possible factor in virtue of which hysteria is more common in the female sex; the factor of congenital determination. Considering the degree to which females are specialized by nature for the development of centripetal emotional tones in view of the part they play not only in reproduction but also in the care of the child during its early years, it would be difficult to exclude an inherent tendency towards the concentration of emotional-tone disturbance and the proportionate operation of

* Unless otherwise stated, the name 'hysteria' in this section is taken to represent those cases which come under medical treatment—which show obtrusive symptoms.

psychical dissociation with a correspondingly inherent tendency towards centripetal determination of the ego. It is not that girls are hysterical and boys are not; it is rather that they are more hysterical than boys, and to deplore this would be to deplore the process of nature that differentiates females from males. And as a matter of fact the more mild degrees of hysteria do not appear to interfere with essential female functions; as a means to an end they may serve a useful part; certain of the elements of the hysterical atmosphere being directly useful in the atmosphere of reproduction.

Age.—It has been said that the manifestations of hysteria are most common from the time of puberty onwards, diminishing as age advances, but that they may occur in elderly people; that they are uncommon in children, and are rarely if ever met with before the age of five or six. These statements will bear a certain amount of criticism.

In the first place, from the psychological standpoint all children are hysterical, and must of necessity be so in view of the incompleteness of their emotional control. Their behaviour is hysterical behaviour in that it is childish; only it is not clinically so because it is normal—that is, it conforms to the behaviour of other children in the community. The ‘April showeriness’ of childish emotionalism, the amnesia for experiences of childhood, the amenability to authority, the imitativeness natural to this period—in short, all the charm of childhood—are indicative of the hysterical atmosphere from which we all, more or less, emerge in the course of time after having passed through the machinery of education and normal contact with our fellows.* Clinical hysterical symptoms, however, do not as a rule occur in early childhood, although they may under circumstances to be mentioned later.

Hysteria in the aged ought to be cautiously, if ever, diagnosed, for in such people there is a natural fading of emotional vigour and diminution of emotional control in the atmosphere of such fading. In so far as this fading is associated with organic vascular changes, the condition cannot be properly called hysteria, although in certain cases the symptomatology may resemble it; really it is a senile dementia. The very fact that the patient is ‘old’ renders hysteria improbable and cerebral involutionary change likely; only in the event of being able to prove that no element of degenerative change exists ought senile hysteria to be thought of. The condition of affairs,

* Strictly speaking, the infantile behaviour of the first few months of life cannot be called hysterical either from the psychological or clinical standpoints, for during this period the central nervous system is incomplete, myelination of certain tracts being unfinished at birth; there is, so to say, structural defect at this time which removes the associated behaviour from the sphere of hysteria.

in other words, is the converse of what occurs in childhood ; in the latter we have behaviour that is psychologically hysterical, though clinically it is not ; in the former we have the clinical symptoms of hysteria in certain cases, whereas psychologically it ought not to be diagnosed.

Hysterical symptoms become manifest when the environment of determination is replaced by that of adjustment ; as a general rule this coincides more or less with puberty, the time at which the home atmosphere gives way to the common. In the event of the child of few years having to face the world before his time, there is a danger of hysterical symptoms becoming manifest early ; but in many cases the reverse occurs under these conditions, for the environment of adjustment behaves as that of determination for a time, with correspondingly satisfactory results. The deciding factor in such a case would appear to be the normality or otherwise of the determining environment up to the time.

There can be no doubt, I think, that in all people the environment of adjustment acts normally in this way to some extent ; control of the emotions, though elaborated for the most part in the early environment, also goes on in the environment of adjustment for a time, and people who leave the former environment with deficient emotional control do in the course of time gain some degree of control in the adjusted environment. In this way we should expect to find that hysterical symptoms decrease as the patient grows older, and this is borne out by observation. Of course, given that we have an utterly false environment of adjustment, as described by Dickens in the case of Mrs. Witterly, no such control is possible ; but in cases of this kind the environment of adjustment is only so in name—it perpetuates all the morbid influences of the defective environment of determination.

As regards, then, the question of age in association with hysterical manifestations, we may say, from the clinical standpoint, that these show themselves first at or about puberty for the most part, and that they tend to lessen as the patient gets older ; and that they should be diagnosed with the very greatest reluctance in old people, if diagnosed at all.*

* Puberty possesses an added value in the precipitation of hysterical manifestations in that it is a time of great emotional stress and strain in itself, apart from its being the period of demarcation between the environments of determination and adjustment.

In elderly patients the only possible justification for the diagnosis of hysteria would be a history of clear and definite hysterical attacks throughout life, with no lengthy period of discontinuity ; even in such cases the exclusion of cerebral and general degenerative processes would be very difficult and would be essential for the diagnosis. Given that the symptoms have arisen more or less *de novo* in old people, then hysteria ought *never* to be diagnosed.

Social Status.—The association of social status with hysteria has shown itself prominently during the recent war; the private and non-commissioned ranks were most affected. The more intelligent and liberal the upbringing of the child the more likely is the environment of determination to conform with that of adjustment: public school life essentially fosters emotional control. It is in this connexion that games manifest their chief value; as agents for the suppression of uncontrolled emotionalism they must be given a prior place to the pure acquisition of knowledge. A public-school boy who is an all-round athlete is rarely hysterical; the intense and concentrated scholar very often is.

Ill Health—During Childhood.—Whatever the cause of the ill health, this factor is liable to facilitate the development of the hysterical atmosphere in so far as the child is removed from other children and becomes a focus of attention in his home. No one illness possesses a specific value in this respect; naturally the lengthy illnesses are the most likely to have this effect.

But in addition to fostering the development of the hysterical atmosphere, such illnesses possess additional value in the determination of future hysterical symptoms by expectation. A child whose environment of determination conduces to the development of the hysterical atmosphere, and who has been dieted on account of abdominal pain and vomiting, associates ordinary food with such pain and vomiting; under circumstances which will be discussed later, hysterical 'pain' and vomiting occur when he is compelled to take ordinary food in the environment of adjustment.

Collateral Ill Health.—It is not only the illnesses from which the child himself suffers that may act as symptom-determinants; illnesses with which he is brought into contact may do the same, and, of these, parental illnesses seem to have the strongest influence. The *modus operandi* in such cases, however, is liable to differ from that which obtains in the case of self-experienced ill health, and will be discussed when dealing with hysterical vomiting; briefly, it may be said that whereas in the latter the hysterical manifestations are generally those of the tertiary or expectant variety, in the former they are rather of the primary type at their inception and are maintained as tertiary manifestations. In the case of collateral ill health, the associations concerned are for the most part of the secondary somatic variety; in self-experienced illness they are primary somatic.

This is a point that cannot be too strongly insisted upon; children ought never to be brought into close and intimate association with their relatives when these latter are ill.

THE HYSTERICAL INDIVIDUAL AND HIS REACTIONS.

The hysterical individual, developed in the surroundings and under the circumstances described above, is for the most part readily recognizable in everyday life and before the occurrence of obtrusive symptoms. The salient feature of his character, as manifested in his outward and visible behaviour, is abnormal egocentricity, a centripetal orientation of his ego that demands attention of some sort on the part of his environment. All the activities of such an individual are, consciously or unconsciously, devoted to this end; and hysterical symptoms, when they occur, conduce to such an atmosphere in themselves.* But short of the precipitation of symptoms, hysterical people are often enough successful in the attainment of an environment in accord with their egocentricity; this especially holds in the case of girls.†

The means adopted for the evocation of the element of attention in the environment of adjustment vary with the ability of the individual and the status of the community of which he forms a part; such methods are legion, and embrace every sphere of behaviour. Broadly, they must fulfil two requirements: they must make the individual 'noticeable', and they must not interfere with his material interests. Attention to personal appearance is sufficiently common among such people as to be almost symptomatic, and the effect attained is always just a little in excess of the prevailing fashion. There is never any attempt to strike a line for themselves and away from the style in vogue at the moment; this might open them to unfavourable criticism and to that most fatal of all attitudes for the hysterical character, laughter.

A common and rather more subtle method, and one which is usually seen in conjunction with the above, is the altruistic, the apparent subordination of the individual's behaviour in conformity with the environment at the time. There is a facile openness to conviction which is very typical and equally effective; there is a

* Such symptoms must not be looked upon as developing *in order* to bring about an environment of attention and deference; induced in this way they would be rather of the nature of malingering than of hysteria. Such an environment is to be looked upon as an associate of hysterical symptoms, and an associate that is favourable for their persistence.

† Necessarily social position has an important influence in this connexion: the rich girl has the desired environment formed for her without any endeavour on her part, whereas the hysterically determined girl of the working classes has to make it for herself when she leaves the complaisant home atmosphere for the impersonal environment of adjustment. If she is unsuccessful, the associated emotional disturbance is liable to precipitate symptoms in accordance with the details of her determined environment; and if the atmosphere of her 'illness' be in accord with her egocentricity, then, naturally enough, her illness persists.

willingness to oblige other people in unessential details. Altruism, provided it be not hidden, is of all traits the most productive of admiration and respect at the time, and among hysterical people it is conspicuous enough; it never goes to the extent of materially interfering with their comfort; it is essentially superficial. In the atmosphere of authority it is the art of converting necessity into a virtue, and it may perhaps best be described as 'conscious' or 'self-conscious' altruism. In conjunction with the docility which is an inherent element of the hysterical atmosphere, such conduct is curiously theatrical; among most classes of the community theatricality is a common characteristic of the hysterical individual.

An outstanding feature of hysterical patients is their apparent emotional placidity and general air of detachment from their surroundings. They are interested in their symptoms, but their interest is rather that of an onlooker than a participant; they are invariably courteous, but they are never anxious or disturbed. Until treatment is instituted, they are perfectly content to lie quietly and to occupy themselves in reading, writing, and so forth, and to accept the ministrations of those around them as their right. This apparent independence of emotional disturbance and aloofness is a direct associate of the wrongful influences brought to bear upon them in the environment of determination conducing to centripetal orientation and isolation of the ego. The empirical ego in the hysterical person is independent of unpleasant emotional tones, for such tones are accompanied by psychical dissociation: in so far as this occurs, the ego is correspondingly isolated and detached. The same feature is to be seen when such a patient is put under proper treatment, when he is put into an atmosphere that is not conducive to the centripetal orientation of his ego. His very anger and resentment are puerile and feeble.

The majority of people are egocentric, and many are altruistic; egocentricity and altruism are not in themselves to be looked upon as indicative of a liability to obtrusive hysteria. But the association of the two is very characteristic of hysteria, and is of sufficient importance to justify a further examination into the psychology of the individual manifesting it.

Such an examination is usefully combined with an inquisition into his association-groups.

Association-tests.—The recognition of the value of this method of examination must not be looked upon as an acceptance of the different theories which have arisen around it or from which it has itself arisen; theories which are associated with Jung, of Zurich, Freud, and many American physicians. No one, I suppose, doubts

the value of much of Jung's work on associational psychology as far as that work is absolute; the theories upon which he works, and the meaning he attaches to his work, are speculative and open to criticism. The value attached to certain associational trends, and the influence of such trends on *treatment*, are questionable and dependent on unproved conceptions of a metaphysical nature that are out of place in clinical medicine and of doubtful practical value. As a means of *diagnosis* such trends are of interest, but it may be emphasized that for diagnostic purposes the elaborate and lengthy induction of 'free' associations is entirely unnecessary.

We are justified in making the following deductions from an inquisition into the associational formation of an individual, and the following only:—

1. The existence of dissociation-mechanisms in the patient's psychology.
2. The proportion of such mechanisms—their excess or otherwise.
3. The presence of mental defect.

The mechanism of testing differs in (3) from that used in (1) and (2). It will be seen from the above that association-testing is valuable in establishing the presence of a degree of hysteria that is liable to be accompanied with clinical symptoms and the existence of mental deficiency; it is of less value in excluding these abnormalities, and it is of no value in the distortion-neuroses and the common form of the mnemoneuroses. It has no value in the treatment of mental deficiency and hysterical states other than that which arises from correct diagnosis; the superficial value which it has in the treatment of hysteria will be discussed later.

The method of testing is well known and simple in its essentials. A series of test words are taken and spoken seriatim to the patient; the first word that comes into his mind on hearing the last word spoken is uttered by him and is marked down; the patient is warned against his having *of necessity* to reply 'logically'.

In the first place the time-element is carefully excluded; it is not mentioned to the patient at all.* There should be an absence of pomp and elaboration; the patient should be warned against preparing his replies in advance, and the eyes may be lightly bandaged in order to avoid the intrusion of surrounding objects into his psychology. He is given a word and is asked to say what it recalls to his memory at the moment. Fifty to one hundred words are given, and they should include parts of the body, common

* It is better to take this method first and the time method second; otherwise the element of 'hurry' inseparable from the latter may intrude when the second investigation is being made, with unsatisfactory results.

external objects, words of action, and specific words suggested by his history or symptoms if he has any. His replies should be classed in accordance with the associational groups already detailed :—

ARCHAIC. ¹

RECENT.

Primary.

Somatic.

Exotic.

Secondary.

Somatic.

Exotic .

In this way we are able to obtain an insight into the type of psychology we are dealing with, and such types can be broadly divided into two groups; the first of which comprises patients whose associations are of the archaic and primary varieties, and the second in which they are secondary. These may be referred to as the objective or concrete, and the subjective or abstract, respectively. The former group is, other things being equal, of lower mental calibre than the latter.

Certain special varieties require mention in this connection. The patient may not associate at all: in such cases we are dealing with confusional states. This condition is not by any means uncommon among the distortion-neuroses in their acute phases. Other cases simply repeat the test-word; there is no confusion, but they say that no other word comes into their minds. If we can be certain that this is true, it is indicative of mental defect, but it is not easy to exclude in such cases a defence attitude on the part of the patient taking this form. The 'clang' association type points to mental defect, temporary, as when the patient is in the early stages of alcoholic intoxication, or permanent. Predetermination of the reaction-word is almost always betrayed in the course of time by the fact that, sooner or later, the reaction-word and the test-word coincide; this, of course, is best elicited when going over the association tests in relation to their time. Such predetermination may also be diagnosed by reading through the reaction-words consecutively after the testing; the connexion of each word with that previously given by the patient is then to be made out in the majority of cases. It must, of course, be realized that repetition of the test-word and predetermination have positive values in the estimation of the patient's psychology. They have their analogies in other branches of clinical medicine, and they have this advantage when met with in the course of a psychological examination: they are apparent as refractoriness on the part of the patient directly, and as mental deficiency indirectly

or directly. They have to be judged with reference to the context as represented by the history of the patient's disability.

In the actual assignment of the reaction-word to one or other of the groups mentioned above, it is well for purposes of standardization to go on the rule of considering all associations as concrete if they are intelligible as such to the average man; to the man, that is, who possesses no special qualifications as a psychologist. But here again, in a detailed examination reference must be made to the patient's history. What appears to be concrete to the examiner may in fact be abstract and entirely personal to the patient: in the majority of cases there is no difficulty in assessing the proper value.

For the estimation of the degree with which the patient has dissociated, the association tests are used rather differently. Another series of words is taken, and the patient is told to respond to them as quickly as he possibly can; he is told that the speed element bears an important relation to the test. There is, however, no necessity to measure the time-reaction; it is more important, given the patient realizes the speed-requirement, to watch his behaviour during the interval, although, of course, any marked increase in the duration of the interval is to be noted. The patient is told that his answers need not *of necessity* be logical as he understands the word.

It will be found, if a sufficient number of words be taken, that in certain cases (1) there is an abnormally long reaction-time, and (2) there is abnormal behaviour on the part of the patient during certain reaction-intervals. These findings may, but do not necessarily, coincide, and the greater importance, if anything, is to be paid to details of the second group. The abnormal behaviour in question is very variable, but it is also very obvious; it is of the highest value in the assessment of certain values of the patient's psychology. Broadly it consists of the objective signs of discomposure: restlessness, little movements of the hands and feet; flushing; stammering; and so forth. In certain people it takes the form of irritability in replying; defiance or insolence. Some patients, as the inquisition progresses, hold their hands over their faces, lean forward, and give their answers with increasing hostility, even to the point of definite anger; and it is always of interest to form an opinion of the patient's mental attitude to the examiner at the moment of termination of the inquiry. Inability to 'hear' or to 'understand' a given test-word has the same significance as the above.

A great deal of interest attaches to these association-reactions, and a large amount of work has been done on their significance and possible interpretation. It has been assumed that the abnormal reactions described above, time- and somatic-abnormalities, indicate the 'existence' in the patient's psychology of 'psychical foreign

bodies'; of 'dissociated psychical systems' which indicate somehow psychical representations of experiences that have not been assimilated into the normal stream of consciousness; which persist in an extra-conscious sphere, but which, in a devious and indirect manner, are linked up with associations which subserve outward behaviour. In the event of a test-word impinging upon associations that are connected with such systems, then, in accordance with the closeness of their connexion, abnormal behaviour is manifested; and in that such systems have been called 'complexes' and 'repressed complexes', the test-word that evokes it is referred to as a 'complex-indicator'.

Theories such as this are metaphysical, and are associated with space-time conceptions that are of doubtful value when applied to psychical phenomena; the most that can be said for or against them is that they may or may not be true; and their bearing upon the mechanism of psychical dissociation and the problems of hysteria will be considered later. Here it may be said that the conclusions which may legitimately be deduced from the above reactions, in so far as they depart from the normal, would appear to be the following:—

1. In such cases we are dealing with a departure from what normally obtains in the relationship between psychophysical reaction and experience and psychophysical reactions and the associations of that experience.

2. That in such abnormal behaviour we have evidence of defective emotional control.

3. That in such manifestations as anger, insolence, and defiance on the part of the patient we have positive evidence of the existence of a psychology orientated centripetally.

The third conclusion would bear in favour of an associated neurosis being hysterical; the first two are compatible with neuroses other than hysterical.

The test-words used should be sufficiently numerous to include verbs and adjectives as well as nouns, and it is of value to include certain words that have a double meaning or a double use, especially when assessing associational dispositions. 'Weak' may be associated with 'seven days' or 'child'; 'hare' with 'brush' or 'speed'; 'piece' with 'chess' or 'war'. Such responses serve as indices of the mental trend among other things; as to whether the patient is 'materialistic' or 'idealistic'. The number of words taken should not be much less than a hundred for any completeness of examination, and the list formulated by Brill* will be found useful in ordinary

* *Psychoanalysis: Its Theory and Practical Application*, 2nd ed., pp. 140, 141. W. B. Saunders Co.

practice. It is better to prepare the list beforehand unless some such standard series be used; otherwise the associational disposition of the examiner may interfere with the proper formation of the series. The random selection of words from a dictionary is useful in the event of no such standard series being available at the moment.

After the first ten words it is useful to ask the patient to repeat the words given him, and to number such words in the order they are remembered. Any interpolated word is to be noted, and also any tendency to repeat the words the patient has given as reactions. There is little or no value in picking out the dissociation-indicators and tracing them by means of what has been called the 'free-association' method.

Given that these methods of association-testing are used with a clear conception of their utility and limitations, they are of the greatest value as *a means of diagnosis*; they act, so to speak, as does the bucket of the marine biologist in the endeavour to form a conception of the fauna and flora of the sea-bed in any one place; but just as the bucket may occasionally fail to bring to light certain specimens present, so also these association-tests may miss certain features of interest and importance in diagnosis. But the more often the bucket is lowered—the greater the number of test-words given—the less the likelihood of failure in either case.

Psychogalvanometry.—An interesting phenomenon, which has recently received detailed attention from Dr. Prideaux, of Cambridge, is one which is known as the 'psychogalvanic reflex'. The reflex or response in question was first described by Veraguth, of Zurich,* and has also been investigated by Dr. Waller,† and Professor Hill, of Manchester. The method of eliciting the response is to introduce the patient into an electrical circuit by immersing his hands or his feet in bowls of salt solution. The subject is made one arm of a Wheatstone bridge, connected with a mirror galvanometer, and a balance is obtained in the bridge. It is found that the occurrence of incidents in the environment of the patient calculated to give rise to an emotional tone disturbs the balance in the bridge and deflects the galvanometer mirror.

It is not proposed to enter into the physiological aspects of the phenomenon, interesting and important though they be; the investigations of Prideaux would appear to indicate that the immediate

* *Das psychogalvanische Reflexphänomenon*, Berlin, 1900.

† "The Galvanometric Measurement of 'Emotive' Physiological Changes," *Proc. Roy. Soc., B*; 1917, vol. xe, p. 214.

associate of the response lies in biochemical changes in the skin, assumed to be the result of nerve activity.

The actual measurement of the response is of importance in two directions; according as to whether it is elicited from situations ordinarily favourable to its manifestation, or from those parts of the body which do not customarily show the reflex. It has been found that in the majority of people the palms of the hands and the soles of the feet are the sites of election for demonstrating the reaction, and that they do not demonstrate it when other parts of the body are utilized. A certain class of people, called 'sensitives' or 'imaginatives', give a response from the forearms as well as the palms, whereas another group give little or no response either to the palmar or forearm areas ('insensitives'). Furthermore, it has been found that 'sensitives' tend to give a wider excursion in the emotional atmosphere, brought about by anticipation of an incident, than that formed by the occurrence of the incident anticipated. Normal people give a response from the palms of the hands and the soles of the feet only, and the greater excursion of the mirror is seen on the occasion of the experience physically of the threatened emotion-evoking incident. The 'insensitive' group includes cases of gross mental defect, among others.

For the proper appreciation of the value of the response, not only must the extent of the excursion of the galvanometer mirror be noticed, and the areas which are capable of responding, but the attitude of the patient to the test generally is of importance. This has been recognized by Dr. Waller for one; he includes in his classification a group of people who for one reason or another refuse to undergo the test. Among such people it is reasonable to conclude that undue self-consciousness, unreasonable dislike of exposing oneself to presumed destructive criticism, or high self-valuation may play a part, and as far as such elements do enter into a refusal to undergo the test, this group would comprise a disproportionately large number of centripetally orientated individuals.

Dr. Waller notices that hysterical people tend for the most part to fall into the insensitive group, and this, if he dealt with declared hysteria (that is, hysteria in the environment of adjustment), is exactly what we should expect to find. In such people we are dealing with a high degree of ego-isolation, of detachment of the individuality from the unpleasant elements of external environment; with such types, sudden, disagreeable, or unexpected stimuli either leave the subject undisturbed, or, if sufficiently severe, they are provocative of obtrusive hysterical manifestations. Given, however, that young children who are being brought up in an environment of determination that is conducive to the development of hysterical

manifestations in that of adjustment were to be tested, then it is reasonable to think that they would show reactions associated with lack of control of the emotions.

A most important point about the practical application of the reaction is the presumed ability, by its means, to discriminate between certain functional and organic symptoms. It has been claimed that, in the event of a patient being pricked by a pin and saying that he cannot feel any sensation, the occurrence, after the usual latent interval, of the psychogalvanic response is an indication that the condition is functional and that the pinprick has been felt. Leaving on one side this rather curious conception of a functional nerve disorder, the implication that a patient must have felt when a stimulus is associated with a psychogalvanic response is open to discussion.

The question in point is one that has a wide bearing, and it is probable that a complete answer is impossible in the present state of our knowledge. The following considerations are intimately associated with it :—

1. *Is the psychogalvanic reflex an inevitable associate of an emotional tone?*—Many of the known properties of the reflex in question point to its being an essential accompaniment of the physiological phenomena which go with organized somatic behaviour. In so far as an emotional tone is an inevitable associate of conative activity, just so far is the psychogalvanic response an essential accompaniment of an emotional tone. We have already seen that emotional tone and conative response do not stand in any causal relation to each other; they are both of them aspects of the psychophysical phenomenon, instinctive activity; but they cannot be deprived of their inherent association. The psychogalvanic response is an essential associate of an emotional tone, though perhaps not quite so direct an associate of it as of the conative activity which goes with it.

2. *Given the occurrence of an emotional tone, are we to postulate coincident consciousness?*—Here we are at once confronted with the fact that ‘consciousness’ does not admit of an absolute definition; that we have no standard of consciousness. In other words, it is a relative and not an absolute conception. The psychical state which represents consciousness in the lower animal is, probably, but a shadowy presentation of human consciousness; human consciousness during sleep is different in degree from that which obtains during the waking hours. It is probable that some form of consciousness is to be postulated as an integral associate of an emotional tone, but the degree necessary is far removed from what may be called the normal human consciousness of waking life. The

outward and visible signs of emotionalism (and therefore presumably the psychogalvanic response also) are to be seen frequently in sleeping people; they are also manifested during the limitation of consciousness characteristic of the hypnotic state. Certain conditions of dementia, in which it is reasonable to suppose that consciousness is defective, are compatible with emotional manifestations; and, on the other hand, diseases in the region of the thalamus are occasionally associated with exaggerated emotional behaviour in the absence of consciousness of increased emotionalism.* It is reasonable to conclude, therefore, that the psychogalvanic response does not necessarily imply the coincidence of normal waking consciousness of the stimulus which was associated with it; that is to say, the association, for example, of a pinprick with the psychogalvanic reflex does not carry with it the implication that the patient has consciously † appreciated and assessed it at its proper value as a pinprick. This is, of course, in accordance with what has already been said in dealing with the association between consciousness, anatomical associational dispositions in activation, and the emotional tone intensity; an emotional tone of high intensity is compatible with a diminution in consciousness in the event of the anatomical associational dispositions in activation being relatively few in number.

To prove that a patient has been normally conscious of a cutaneous stimulus such as a pinprick, we should have to vary the stimulus in a way that appeals to the intelligence only, and this, in the case of cutaneous stimuli, is unattainable. It may, moreover, be pointed out that the fact that a patient before the onset of his supposed anæsthesia gave precisely the same 'magnitude' of galvanometric response as that which obtains during the anæsthesia to identical stimuli, in no way proves the same intensity of consciousness to be existent on the two occasions, given that we realize the association of the response with associates of emotionalism, and the fact that a normal intensity of emotional tone does not necessarily postulate a normal intensity of consciousness coincident at the time.

In the case of hearing and sight the conditions are rather

* As a case in point, there was, in 1914, an old man who was a patient in the Nell Lane Hospital at Withington, and whose response to the slightest stimuli of an unexpected nature, auditory and cutaneous, was uncontrolled paroxysmal laughter. He was conscious of no pleasure in so behaving; he had become more or less accustomed to the condition; it is probable that he would have shown a psychogalvanic response in accordance with his behaviour and apart from the acuteness of his consciousness of the stimulus used.

† In the sense of full consciousness characteristic of the normal individual.

different, in that by means of spoken and written words tests can be arranged which demand the activity of conscious intelligence for their discrimination. Thus, if a patient states that he is deaf, and gives a psychogalvanic response of moderate intensity in association with an indifferent sentence, this, as indicated above, does not prove that he has heard and understood the meaning of the sentence. But if now he gives a greater response in association with the words "you are found out", then the presumption is, not that he is suffering from a functional nervous disorder, but that he is a liar; for it would be difficult to account for the increment in the response on grounds other than that he has appreciated and assessed at their proper value the words spoken to him.* The same applies also in the case of sight.

3. *In the absence—or great departure from the normal in the direction of absence—of the psychogalvanic response, is it justifiable to conclude that the condition must be of organic origin?*—The question is perhaps rather easier of solution than that just considered, for whereas there may be some difficulty in realizing the essential independence of an emotional-tone incidence of normal human consciousness, it is not difficult to understand that the diminution of the normal psychogalvanic response is likely to be associated with an impaired emotional-tone incidence. The question really resolves itself into this: Is it possible for a stimulus normally associated with an emotional tone to occur in the absence of such an association, the patient being structurally healthy at the time and showing no objective signs of diminished consciousness? It is possible, of course, and is to be seen every day in the process of the formation of familiarity, not only in man, but among non-human animals also; in man the process is liable to be exceedingly rapid.

It has been noticed by most workers in the field of psychogalvanism that the association of free somatic expression with the emotional tone experienced tends to lessen the psychogalvanic response, whereas, on the other hand, deliberate attempts to restrain such expression are accompanied with an increase in its extent. A more or less inevitable association of objective somatic behaviour has already been seen to be one of the characteristics of hysteria,

* At the same time it must be remembered that although the probability in such a case would be that the patient has heard and understood, it is conceivable that the emotional tone of which the psychogalvanic response is an associate might have been reinforced apart from the meaning of the sentence; even in such a case as this the conclusion could only be a probability and not a certainty. Tests of this nature are rendered all the more difficult of interpretation owing to the apparent fact that the extent of the response in any one case would appear to be dependent on many factors, all of which at present are not fully understood.

and in so far as it is, we should expect to find that a feeble psychogalvanic response was the rule in such people, and this has been established by Waller.*

Hysterical people in the environment of adjustment, in accordance with their ego-isolation, are typically 'inaccessible' to emotional tones of ordinary intensity; much of their characteristic placidity and apparent detachment being associated with this; given a sufficiently powerful emotional-tone incidence, then there is immediate body behaviour (apparent as symptoms of obtrusive hysteria); both of these atmospheres are compatible with diminution of the extent of the psychogalvanic response to the point of obliteration. It is not necessary to assume the existence of organic disease, therefore, in the diminution or absence of such a response.

A corollary to the above statement—that the free association of the somatic associates of an emotional tone experienced tends to diminish the extent of the psychogalvanic response—is, of course, that people who habitually exert conscious restraint in such an atmosphere ought to demonstrate a vigorous response: this has been found to obtain. Therefore, any neurosis that arises in the atmospheres of an emotional-tone—conation distortion ought characteristically to manifest such vigour of response, and the few cases of this nature that I have had an opportunity of testing bear out this conclusion. A point of practical interest arises in this connexion; it might be reasonable to conclude that people who ordinarily manifest exceptional vigour of the response are such as would break down into the distortion-neurosis readily if and when the circumstances are favourable.†

The psychogalvanic response, therefore, would appear to take its place as a method of somatic behaviour in association with an emotional tone. In its presence we cannot argue coincident normal human consciousness, and its absence does not necessarily imply structural nervous disease. Such conclusions, for their substantiation, require further evidence, the psychogalvanic response being of purely relative value.

As a result of carefully taken association-tests, combined if need be with psychogalvanometric observations, we are enabled to give

* It should be remembered that the objective somatic response need not necessarily be 'positive', in the sense of active kinetic behaviour; 'negative' behaviour from this point of view being of equal potency.

† The above conclusion can only be tentative, for, as already indicated, the factors which govern the actual extent of the response are at the present only imperfectly known: and, as mentioned above, it is doubtful how far it is justifiable to compare the extent of responses even to apparently identical stimuli in the same patient.

more or less definite statements as to the presence or absence of traces of abnormal psycho-physical relations between reaction and experience, the degree of emotional control existent, and, possibly, the patient's orientation. We can form some opinion as to the type of associations formed; archaic with primary recent (low level) or secondary recent (high level). In hysteria such abnormal psycho-physical relationships are always found, and patients are divisible into two groups, according as to whether they are of the low- or high-level type predominantly. A confirmation of these two types is desirable, and it is to be obtained by an examination into their powers of concentration.

Concentration Tests.—For this purpose the patient is given the page of some book; he is told to mark every 'e' on that page by making a pencil-dot beneath it. A low degree of concentration is manifested by the frequent missing of 'e's'.

Certain patients easily and correctly perform the task; others, beginning well, show the effects of failing concentration as they proceed, more and more letters being missed as they come towards the end of the page. Here again, it is not only the missing of letters that is to be looked for; the method employed by the patient ought to be criticized. The great majority of people begin at the beginning of the first line and systematically work through the page, word by word; but others are eccentric and begin at the end of each line, or work in vertical columns; in one case that I came across the patient began at the end of the page and worked backwards; absolute random 'dotting' is occasionally to be seen, the patient marking one or two letters in one line, then one a few lines below, then returning to the first line, and so on; when he has finished, large numbers are usually found to have been missed. The latter method is not uncommon in mentally deficient people, mongoloid idiots and the like.

It is rare to find manifestations of irritability or anger in the performance of the test, and it should be realized that its correct performance makes no demands on concentration which necessitates constructive intelligence. It is sometimes of interest to ask the patient at the termination to describe the passage he has been working upon; quite a number carry the test through with little or no realization of the sense of the words of the page.

The simple concentration test is easy, and the majority of patients perform it satisfactorily. The converse has the greater value: if a patient does not pass it satisfactorily, there is a high degree of concentration defect.

The second test is very much more difficult, so much so that

the reverse of the above holds: the passing of it correctly argues a very high degree of concentration efficiency. It is known as the 'Healy code' method, and is performed in the manner shown in *Fig. 3*.

This arrangement of the alphabet is shown to the patient, and then the skeleton of this arrangement (*Fig. 4*.)

He is told that a square with a dot in its centre stands for 'n'; an open square for 'e'; a V with a dot inside for 'w'; an inverted V with a dot for 'y'; an open V for 's'; and so on. The diagrams

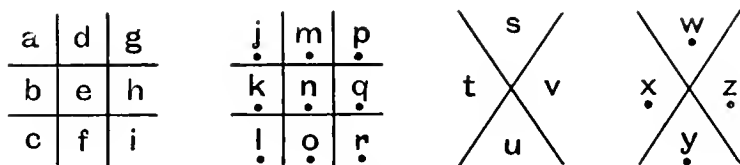


Fig. 3.

are then taken away from him, and he is told to transpose a certain word into the above symbols from memory. The word should contain the same letter or letters two or three times if possible, so that the ingenuity of the patient may be gauged; if on encountering such letters for the second and third time he laboriously goes through the whole business of visualizing the diagrams, this is obviously less intelligent than if, realizing that he has obtained the letter before,

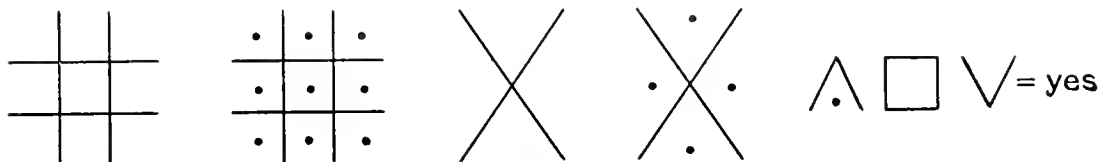


Fig. 4.

he looks through what he has written to find it. Suitable words are *recognition*, *anticipation*, *element*. It will be seen that this test is severe, or is capable of being made severe. Easy words can be selected and the proper conclusions drawn.*

Some interesting conclusions may be drawn from the use of this code. Thus, the patient may not be able to grasp the idea of the code at all; he may begin it and break down almost immediately; he may break down towards the end of a fairly long word; he may finish the word; in the latter event the test may have been gone

* A good description of the Healy code and its method of employment is to be found in the Proceedings of the Chicago Neurological Society (*Jour. Nerv. and Ment. Dis.*, June 1918, p. 454) of Jan. 17, 1918; the article in question being communicated by Dr. R. C. Hamill.

through carelessly; it may have been performed thoroughly and inaccurately, or thoroughly and accurately. The attitude of the patient's mind must be considered; there is often very considerable confusion and annoyance, and this attitude is of as great importance as the accuracy or otherwise of the performance; in many cases of greater importance, for it throws a light on the patient's egocentricity. The patient who point-blank refuses to go through the test lacks self-confidence, and is morbidly sensitive to making himself out as incompetent; normal people do not attach this importance to so slight an indication, while the egocentric hysterical patient does. The same significance is to be attached to the patient who gives up as soon as he realizes the difficulty of the test. Anger and annoyance are indicators of the value the patient sets on his own efficiency and its recognition by others; the idea that he is not 'making good' and giving rise to respect and admiration is acutely distressing in proportion to his egocentricity. The casual and grossly inaccurate completion of the test hints at mental defect. The response of the normal man is that with a certain amount of care he finishes the word; there will probably be mistakes, but he is anxious to realize these and to profit by experience; often enough he will ask to go through the test again with some other word. His mental attitude to the code is one of interest, whereas with the hysterical patient it is one of nervousness and resentment. The thorough performance of the simple concentration test with resentment when performing the Healy code suggests the hysterical type.

Schizophrenic Reaction.—A very interesting reaction, and one that may be found of use in the examination of these patients, is that which may conveniently be called the 'schizophrenic reaction'. It is performed as follows:—

The patient is made to look straight before him; keeping the face in this position he is quietly told to look to the right or to the left; the direction towards which the eyes are first turned is noted. He is then stripped and made to stand in front of the examiner, and is told to bend the body to the right or left; a similar observation is made. He is then turned round so as to face the examiner, and is asked to raise his right hand or the left, as the case may be; any tendency to raise or to move the other hand is noted.

Certain precautions are to be observed in the performance of these test-directions; the patient at the time should as far as possible be in an inattentive state as far as such directions are concerned; he must not gain the idea that the *direction* indicated is of any importance. It is therefore necessary that the attention should be engaged on some definite interest at the time of testing; the value of

the test depends on the proper disengagement of the attention from its performance. A useful method to employ is for the examiner to occupy himself for a time in palpating the neck as though for enlarged glands; he then asks the patient some question in relation to his history that demands concentration of attention; if it can be managed to include an arithmetical process for the proper answering of the question, so much the better. While the patient is thinking or talking, he is abstractedly asked the test-question "Look to the right", but the examiner's attention should apparently be taken up in listening to what the patient is saying. If the patient can be induced to talk interestedly on any subject, then the mechanically voiced test-direction is likely to be associated with a response that is not vitiated by attention. In dealing with the spinal movements and the elevation of one or other hand it is important that the patient be stripped; otherwise a swift flicker of muscles in the right or wrong direction, unproductive of movement in bulk, may be missed.

Given that the attention be disengaged in this manner from the direction asked for, then the responses obtained are of interest, and I think of importance in the estimation of a patient's psychical trend. The responses obtained fall into the following groups:—

1. The indicated movements are promptly and correctly given, without hesitation or appreciable latent interval.
2. The correct movements are performed after an appreciable interval.
3. There is a rapid movement in the wrong direction—that is, the patient makes a swift movement to the left when he has been told to look to the right—but this is immediately corrected.
4. There is a prompt movement in the wrong direction which is not corrected.

In addition, in certain cases all the groups react in these ways uniformly, and what is done with the eyes is also done with the back and the hands; while in others some movements are performed correctly and others incorrectly.*

The interpretation of the results obtained would appear to be as follows: We must, I think, discard results of the second class, as being vitiated by the presence of attention; in such cases the attention has not been successfully disengaged. As regards the fourth class, we have the interpolation of the patient's own individuality between an order and its execution; with the idea of

* A useful way of disengaging the attention from the element of direction in these tests is to draw it to the idea of speed, and to put the question thus: "Look to the right *quickly*".

rightness is the opposite conception of leftness; the manifestation of the wrong movement indicates prepotency of the intrinsic conception as compared with that presented by authority, and vice versa. In the third group we still have this tendency to prepotency of the intrinsic conception, but there is a degree of inattention less than that which obtains in the fourth and greater than that obtaining in the second group, and the conclusion to be drawn from the response of the third order is the same as that from the fourth. In the first group we have prepotency of the idea presented by external authority, the reaction being negative.

Hysterical people tend to group themselves in the first class, and, as we shall see later, the distortion-neuroses are characterized by responses of the third and fourth. Other things being equal, people who show the positive reaction are less likely to manifest hysterical symptoms than those in which it is negative; they are, on the other hand, more likely to break down along the lines of a dysthymia, for the interpolation of the ideas of the unit against those of authority is an indication of a lack of conformity to the herd-instinct and its associate herd-suggestion.* Other things being equal, the more immediate and unhesitating a correct response in the schizophrenic reaction may be, the more likely is the patient to be of the hysterical type.

Dreams.—The question of dreams in hysterical people will be discussed later, but it may be said here that in the great majority conscious dreaming does not occur.† If the attention of the hysterical person be drawn to the subject of dreams, he obeys the general rule which obtains in normal people, and recalls them with increasing facility; in such cases they are ‘indifferent’ or non-emotional (subjectively). Terror- and worry-dreams are never encountered as symptoms of hysteria. Hysterical people do occasionally experience the ‘laughter-dream’, and this, when it does occur, is fairly

* The positive schizophrenic reaction used to be interestingly manifested on the parade ground of any training centre during the war; certain recruits during the monotony of squad drill being particularly prone to execute right-turns at the command “Left-turn”, and vice versa. It would be interesting to know the proportion of such recruits that subsequently developed the war-neurosis—a centrifugal distortion-neurosis—in the fighting line, and to compare the proportion with that obtaining among their companions. It is to be expected that such soldiers would be less liable to manifest hysterical symptoms than those whose schizophrenic reactions were negative.

† By the term ‘conscious dream’ is meant the dream that impresses the individual sufficiently strongly to make him mention it to people in his surroundings. The hysterical person rarely mentions his dreams unless definitely asked; in most cases even then he says he never does dream; in marked contrast of course to sufferers from the distortion- and memory-neuroses.

characteristic of hysteria; it is, however, of rare occurrence even among patients under treatment for hysterical symptoms.

We may describe the hysterical individual, then, in the absence of obtrusive symptoms, as being eminently amenable to authority, showily altruistic, and so theatrical.

His associations tend to be of the concrete order, but may be abstract; the primary and secondary recent variety tend to predominate. Whatever order of associations be formed, 'dissociation-indicators' are present in excess.

He is capable of considerable concentration just so long as this does not call for any great amount of mental energy; when tested with the Healy code, for the proper performance of which very considerable mental energy is needed, there is inefficiency and characteristic resentment.

His intelligence, as far as knowledge of facts is concerned, may be considerable; there is a characteristic lack of constructive intelligence.

He is placid and docile and apparently unemotional in ordinary life; emotional distress, when it occurs, is translated into hysterical symptoms and thereby relieved; the ego remaining thereby untroubled.

Conscious dreaming does not occur, and under no circumstances are there terror- or worry-dreams.*

SUMMARY.

1. Clinical manifestations of hysteria for the most part are to be seen in the female sex, and characteristically in youth. Social status, the health of the individual in childhood and that of the family amongst which he has been brought up, have a bearing upon the obtrusiveness or otherwise of hysterical manifestations.

2. The tendency to obtrusive hysteria diminishes as age advances.

3. The combination of egocentricity and altruism is suggestive of the development of obtrusive hysterical symptoms.

4. Association-tests have a positive value in the determination of the degree of hysteria in an individual; they are usefully combined with concentration tests for the purpose of diagnosis.

* It may perhaps be said that whereas the key-note of the hysterical environment of determination is the note "*Hoc volo, sic iubeo, sit pro ratione voluntas*", that of the hysteric in the environment of adjustment is "*Nisi non numero horas serenas*".

5. Ability to perform a simple concentration test with resentment when attempting to perform the more complicated varieties demanding a measure of constructive effort is to be seen in obtrusive hysteria.

6. The schizophrenic reaction is negative in obtrusive hysteria.

7. Mentally defective individuals are liable to manifest a symptomatology indistinguishable from that of hysteria.

CHAPTER VI.

HYSTERIA (*continued*):
CONSIDERATION OF CERTAIN SYMPTOMS.

IT is not proposed to discuss the symptoms of hysteria in detail, but to mention certain points of interest connected with them that bear upon the *modus operandi* of the hysterical psychology, and which are important from the standpoint of its division into clinical types.

Hysterical symptoms are to be considered according as to whether their initiation was associated with: (1) A centrifugal emotional tone of great intensity; (2) Pain somewhere about the body; (3) A situation conducive to the expectation of pain in certain regions of the body, the associational connection of the pain with such regions being either direct or indirect. As we have already seen, such a division corresponds to primary, secondary, and tertiary or expectant hysteria respectively.

PRIMARY HYSTERIA.

Hysterical symptoms, the onset of which was associated with a centrifugal emotional tone of great intensity.

These are to be discussed separately according as to whether we are dealing with them during the phase of inception or that of establishment.

Phase of Inception.—It must be remembered that we are now dealing with an individual in the environment of adjustment, and that the responsible emotional tone is re-invoked, its original appearance having been associated with the environment of determination.

Limitation of the Field of Consciousness.—It has been mentioned in a previous section that the atmosphere associated with emotional uncontrol is also associated with a tendency towards the non-diffusion of the emotional 'disturbance' through available associational dispositions; the disturbance tends to be transferred *en bloc* through a limited group of such dispositions, the limitation and the lack of control being directly proportional. It was also

suggested that such massive transference made subsequent transference *en bloc* through the limited associational dispositions concerned all the more easy and all the more likely to occur; to borrow an analogy from the sphere of physics, such a massive transference lowers the resistance it encounters in the associational dispositions concerned in proportion to its non-diffusibility—in proportion, that is, to the limitation of the associational dispositions activated. Essentially we have a limitation of the field of consciousness (Janet) on these occasions.

If this state of affairs has occurred in the environment of determination, it is all the more likely to occur in the environment of adjustment, provided an emotional tone of the centrifugal order and of sufficient intensity be operative. Given that the patient has been evolved in a determined environment conducive to lack of emotional control, given that he be hysterical, he is prone to this limitation of the field of consciousness if and whenever a centrifugal emotional tone of sufficient intensity is evoked in the environment of adjustment.

Under such circumstances his consciousness is withdrawn from events and objects in his immediate neighbourhood; as far as he is concerned he is 'unconscious' of such events and objects. He is not by any means unconscious in the ordinary clinical sense; the impression given to onlookers is that he is 'strange' or 'dazed'; but when afterwards he describes the incident, he invariably states that he "became unconscious", that he "remembered nothing until he woke up and found himself in bed". This element in his history is extremely characteristic of primary hysteria, and its presence is essential for its diagnosis. Its absence directly contra-indicates this diagnosis; while its presence, so long as it does not depend purely on the patient's own statement but is substantiated by that of an onlooker, is sufficient in itself to establish an hysterical condition as one of the primary variety. In such a state of dazedness the patient can be touched and handled without any occurrence of the normal response; association-dispositions other than those implicated in the recent emotional storm being blocked by the relative lowering of the resistance in the dispositions implicated.

The patient in this state resembles an individual under hypnotic influence, and we shall see later that the hypnotic state is associated with a similar state of affairs—one in which there is a limited chain of association-dispositions available for the reception of outside impressions, the majority being relatively resistant and thereby blocked. In the hypnotic state, however, the operative mechanism is not a centrifugal emotional tone; the essential lowering of the resistance in the dispositions concerned being brought about to a great extent by a conscious concentration of the attention.

Hysterical 'Fits'.—Details of the behaviour during the period of dazedness associated with a centrifugal emotional tone are determined by the somatic associations formed at the time of the dissociation in the environment of determination. In some respects they are interesting, but they are of little or no importance as far as the diagnosis of the condition is concerned, and as compared with the necessary limitation of the field of consciousness. If the associations were archaic, we may have 'escape efforts' and attempts to run away; the struggling of the patient under restraint forming a bastard form of 'fit'. Primary recent associations give a number of symptoms which are more or less intelligible to the bystander; appearances of pain, ideationally limited; expressions of horror; screaming; and so forth. Secondary recent associational groups are responsible for a multitude of manifestations, limited only by the limitation of the associational dispositions activated in the environment of determination under the influence of intense centrifugal emotional tones. But these modes of behaviour—manifestations of re-activated associational dispositions primarily activated in the atmosphere of dissociation—are in reality but 'side issues' of the great central manifestation, the limitation of the field of consciousness; and the unravelling of them, and tracing of them down to some dissociated 'incident' in the environment of determination, has but an academic value apart from suggestion methods of treatment.

The question now arises as to how long this period of limitation of the field of consciousness lasts, and as to what deductions, if any, are to be drawn from its duration. We may idealize two types of case in this respect: (1) A case in which, throughout all the associational groups activated by the individual, a dissociated system is present in relation to one incident only; (2) A case in which dissociated systems are present in every associational group activated.*

* By the term 'dissociated system' is meant a group of association-dispositions through which, under certain circumstances, the 'energy' associated with an emotional tone of the centrifugal order tends to be transmitted *en bloc*, with the minimum degree of diffusion through them and through collateral and related dispositions. There is nothing to prevent such a group of association-dispositions, in part or in whole, being utilized in the performance of normal behaviour in association with emotional tones of the centripetal order, or those of the centrifugal order in slight intensities: they only act as a 'dissociated system' in the atmosphere of a centrifugal emotional tone of high intensity. It is probable, however, that once they have acted as such a system (in the environment of determination), their utilization on subsequent occasions by centrifugal tones of less intensity is associated with an apparent increase in the intensity of such tones. That is to say, no finality can be attributed to either of these factors, intensity of emotional tone, and non-diffusibility of associated energy through association-dispositions; both are associated elements in the one scheme.

Dissociated systems are not to be looked upon as embalming the elements of a specific 'memory'; rather, they represent the psycho-anatomical mechanism

In the first case, given that the associations perpetuated around the dissociation be purely archaic, we have prompt and automatic flight, the performance of which relieves the emotional intensity in an exactly analogous manner to its relief in a non-human animal, as already described. Efforts of restraint, by increasing the emotional distress, perpetuate the automatic behaviour and maintain the limitation of consciousness; but apart from such efforts the period is rapidly brought to a close. In the event, however, of the associations perpetuated being other than the purely archaic, there is a tendency towards keeping the responsible emotional tone operative, firstly by reverse action (revival of emotional tone through re-activation of associational dispositions primarily activated in its sphere), and secondly by the likelihood of their re-activation indirectly; the duration of the period of automatism being directly proportional to the extent of these recent associations, in the sphere of the dissociated system. The more limited the dissociation system, the less likelihood is there of

which, as was seen in the case of the lower animals, directly militates against pictorial memory; their existence as dissociated systems, by that very fact, excludes all possibility of such memorization in association with the primary specific incident. The subject will be again discussed when considering psychical dissociation.

Arising out of the above discussion, it will be seen that the essential feature of primary hysteria *in esse* is the concomitant limitation of the field of consciousness, and it may reasonably be asked whether the somatic behaviour generally associated with the primary attack, and which was determined at the time of experience of the primary specific incident, may not in some cases be absent; the attack in such cases being represented purely by limitation of the field of consciousness. The answer must be, of course, that such attacks are of possible occurrence; the patient, for instance, may have formed no very definite associations at the time of the primary specific incident; he may have been too 'stupefied' by the intensity of the associated emotional tone; similar stupor being manifested in the environment of adjustment if and when an emotional tone of the same order and intensity is experienced. As a matter of fact, such attacks are rapidly converted into the more ordinary form of hysterical 'fit' as the case progresses; as soon as the patient realizes that he is subject to 'fits' of any description, his preconceived ideas of such conditions are represented in his own attacks as they enter into the stage of expectation.

The question, however, has another aspect. Experimental physiology has established the fact that the abolition of certain cortical influences, by such methods as transection of the neuraxis just above the anterior corpora quadrigemina, is associated with specific behaviour apparently determined by 'mesencephalic release', the behaviour in question being known as 'decerebrate rigidity' (Sherrington, Brown, Weed, Kinnier Wilson). The explanation in common acceptance is that certain motor cell groups of the pons and mesencephalon, collectively known as the nucleus motorius tegmenti of Edinger, and including the red nuclei and Deiters' nuclei, exert a continuous tonizing influence on the body musculature, which is modified in health by influence of the cerebrum, an influence which is essentially clonic. Lesions which dissociate the action of the cortex from the mesencephalic centres permit the unmodified activity of these to manifest itself in behaviour, and Kinnier Wilson has shown that the attitudes and postures characteristic of certain cortical and subcortical lesions are explicable on this hypothesis. The lesions in question are commonly such as hæmorrhage on or beneath the cortex—submeningeal or intraventricular—meningitis, neoplasms,

extensive and complex association perpetuations, and the shorter the duration of the period of automatism.

The second case is an extension of this latter group; here every associational disposition activated is in touch with associations perpetuated in an atmosphere of dissociation; the automatic behaviour may be indefinitely prolonged, by reverse action and indirect revival of the responsible emotional tone. Therefore, as regards the duration of this period of limitation of the field of consciousness, we may say that it is directly proportionate to the number of systems dissociated. Given this, it varies inversely with the preponderance of archaic associations perpetuated around these dissociated systems at the expense of the recent. If the archaic association manifestations of the phase of inception be allowed to run their course unchecked, the tendency is for the period in question to be shortened.

Dissociated Personality.—A very interesting series of manifestations of the primary hysterical variety are the phenomena of dual

abscesses, and so forth, and the question of interest is: Is the diminution of consciousness met with in hysterical conditions ever associated with decerebrate rigidity *per se*? Hughlings Jackson and Kinnier Wilson think that it is, the former ascribing certain hysterical attacks to temporary removal of the influence of the cerebrum (from the mesencephalic centres), the latter amplifying this as follows: "If we imagine the most superficial degree of hysterical dissociation to involve the transcortical neuronic level, the movements released will be purposeful and complex, resembling normal motor activity except for full conscious participation therein: if, similarly, we assume functional disintegration to descend to lower neuronic levels, we should expect to observe phenomena morphologically analogous to those of decerebrate rigidity, which is, as a fact, precisely the case" (*Brain*, xliii, part 3, p. 238).

In this connexion, two principles should be remembered: firstly, the basis of all hysterical manifestations is psychological dissociation, and this in no way postulates physiological, and of course still less anatomical, dissociation; secondly, hysteria is ideationally determined, and, in all probability, necessitates cortical activity, especially in cases of tonic hysterical phenomena. Given that the possibility of such attacks may be associated with the mechanism indicated by Hughlings Jackson and Wilson, then we should expect in some of them to find the extensor plantar response which has also been associated with abnormalities of cortical control (Walshe), and this, of course, is never found. Given that the case reported by Wilson (*Case 7*, V. S., *loc. cit.*) was hysterical, which is admittedly doubtful, then the probable explanation is that the boy at one time had formed associations in the sphere of a case of decerebrate rigidity (the clinical symptoms in his case being so exact), and manifested them in an atmosphere of a recrudescence analogous emotional tone.

In the discussion of psychological dissociation, the relation of epileptic manifestations to the hysterical mechanism will be discussed, and it will be seen that, however distinct the two conditions may be clinically, in some ways the former is to be looked upon as an extreme development of the latter, and associated with a condition of affairs (into which it is probable that congenital determination largely enters) in which psychological dissociation is accompanied by physiological dissociation. It is academically possible that tonic manifestations of the kind described by Wilson may be allied to the epileptic group of phenomena (and it is of interest that his patient, V. S., lost the corneal reflexes at the onset of one at least of his attacks); if it were hysterical, it is unlikely that it was a direct case of mesencephalic release.

or dissociated personality. Briefly this may be described as more or less systematized behaviour on the part of an individual which differs radically from the behaviour commonly associated with him. These phenomena have received special attention from Janet and Morton Prince; their philosophical aspects have been analyzed by McDougall. They are explicable on the ground of associations perpetuated around or in connexion with dissociated systems in the atmosphere of a revived centrifugal emotional tone.

In their essence, all primary hysterical manifestations during the phase of inception are to be looked upon as elements of a dissociated personality; they escape recognition as a personality on account of their inconsecutiveness and apparent purposelessness. This is to be attributed to the relative infrequency of dissociated systems in the ordinary hysterical person; to this relative infrequency must also be attributed the comparative briefness of the period of limitation of the field of consciousness. In the event, however, of an individual being excessively hysterical, of his having systematically dissociated a mass of systems in connexion with conceptions provocative of a centrifugal emotional tone, then, in accordance with his powers of associating, a multitude of associations, archaic, and primary and secondary recent, are perpetuated around these dissociated systems; in extreme cases the completeness and elaborateness with which the gaps are filled in permits the formation of dissociated egoistic associations, but this degree is uncommon even among cases of declared dual personality.

In this way we see that the systems dissociated, in that they are dissociated, and the associations perpetuated around them, must of necessity be abominable and fearful to the dissociating individual; they are the negative image of his empirical personality, and the very completeness of the positive image or empirical ego serves as an index for the completeness of detail of the negative. The more saintly an hysterical person may be, the more liable is he to be possessed by the devil and the more devilish is that devil likely to be: because, through very saintliness diabolic attributes inspire fear and repugnance of sufficient intensity in the environment of determination to bring about their dissociation, and what a less holy character would consider merely unfortunate or annoying creates in him a loathing and horror. The more saintly the character, the more are trivial faults dissociated, and the more detailed and consecutive the dissociated personality becomes.

This principle obtains throughout hysteria generally; the individual brought up in such a way as to conduce to emotional uncontrol is, so to speak, polarized; his manifest behaviour is the associate of that which subserves and has subserved his centripetally orientated

ego, and behaviour other than this is dissociated in the sphere of centrifugal emotional tones. The girl who is extravagantly fond of her mother is liable through that very extravagance to manifest hostility to her as a primary hysterical mode of behaviour; the girl who is musical in such circumstances shows hatred to her piano; and so forth.

Dissociated systems need not necessarily conform to one individuality; in conformity with a patient's powers of association, attributes of more than one may be dissociated in his psychology. The mechanism operative in such cases is perhaps dissociation in the atmosphere of emotional tones of differing intensities, $a, a', a'' \dots$; if we take it that intensity a be maximal, then the manifestations of the individuality dissociated in atmosphere a are not displayed when an emotional tone of intensity a'' is experienced in the environment of adjustment; and the behaviour that is displayed is not so utterly foreign to the patient's empirical personality. But in such cases intensity a is liable to evoke not only the specific attributes dissociated in its atmosphere, but also those dissociated in atmospheres of intensities a' and a'' ; in these cases we have then multiple personality. The problems presented by multiple personality are complex, and the mechanisms at work in certain of the published cases* are obscure, but in all of them one personality will be found that is the 'negative image' of the 'conscious' or 'empirical' ego. The memories of these two personalities are mutually unattainable; there is essentially a limitation of the field of consciousness during the periods of dominance of either.

The phenomena of hypnosis indicate that new associations may be activated during the abnormal state (which may be considered in this connexion as analogous to the period of dominance of the negative image) comparable with those activated during the conscious or non-hypnotic phase, unattainable by the individual during the conscious phase but manifest when he is again put under hypnotic influence. In the same way we may take it that associations are formed during the negative-image phase of dominance, and by an extension of the principles already described we may separate these into the following two groups:—

1. Those which are conformable to the negative personality and which are memorized as a part of that personality, but which are unattainable by the conscious personality. Such associations form part of the negative personality and are dissociated from the conscious just as the other elements of the negative personality are; had they been activated during the conscious phase, they would have been

* *Dissociation of a Personality*, Morton Prince, London, 1906.

dissociated in the sphere of a centrifugal emotional tone of maximal intensity.

2. Those which are incompatible with or non-conformable to the negative personality and which are dissociated as far as that personality is concerned, appearing in behaviour when the conscious phase is resumed. The behaviour accompanying such associations would then be hysterical as far as the negative personality is concerned; but in that the dissociation has occurred during the dominance of the negative personality, they are conformable to the conscious ego and are the associations that would naturally have been retained by that ego in its period of dominance.

A point of interest in this connexion is that of the transference of memories of events which have occurred during the dominance of the dissociated phase into that of the conscious period. Whatever order of associations they give rise to, they are not memorized by the empirical ego when the conscious phase is resumed. If they be conformable to the dissociated personality, they are dissociated for the empirical; if, on the other hand, they are dissociated by the dissociated personality, then, in that they are dissociated, such events are not recoverable in memory, although they may modify behaviour to a certain extent during conscious activity. A warning already given may be repeated again here: precision and accuracy of behaviour cannot be taken to imply memory—conscious memory, that is—as we understand it; an incident dissociated in the phase of automatism, just as one dissociated by the empirical ego, must be regarded as irrecoverable in conscious memory. This is in accordance with Marie's statement, that he had never seen cases of hysterical persons who retained any memories of their second existences* after their apparent cure.

Given that we have multiple personalities, then we have individualities that are intermediate, and that are not maximally repugnant to either of the extremes; the emotional tones at work in their dissociations being of less intensities. In this way, during the automatic phase we have the possibility of behaviour which is the modification of one abnormal personality on another, the personalities in such cases being an extreme and an intermediate, never two extremes. To a certain extent such behaviour may be indicated in the conscious phase—not by memory, but by behaviour—and in such a case the intensity of the responsible emotional tone has not been very great. There is, however, no conscious memory at the root of this behaviour.

In so far as such intermediate personalities exert a modifying

* *L'Automatisme Psychologique*, 7 me. edition, p. 343.

influence on the extremes as far as behaviour is concerned, they have the appearance of a more complete acquaintance with the total individual than the empirical ego itself; for events that are dissociated from the scheme of the conscious ego, and submerged during the dominance of this conscious ego, modify and are modified by the intermediate personality; the same applies to the conscious ego itself. Given that the behaviour during the period of dissociation be precise and accurate, then the impression that the intermediate personality is conscious, and that we have a state of 'co-consciousness', is very strong. But, as already said, behaviour in itself is no indication of consciousness, and McDougall, in his discussion of Morton Prince's case from the philosophical standpoint, goes to show that splitting of the stream of consciousness is not a necessary factor in its explanation.*

Phase of Establishment.—We have seen that the duration of the period of inception of primary hysteria depends among other things on the degree of hysteria of the patient; in the course of time the characteristic limitation of the field of consciousness passes off,† and the patient's behaviour reverts to the normal as far as he is concerned. But the emotional disturbance associated with the period of inception has left him in a state in which similar behaviour occurs all the more easily whenever there is a recurrence of that emotional tone; the responsible emotional tone operates effectively in progressively diminishing intensities. The hysterical soldier-patient whose period of inception has been associated with a bursting bomb at close quarters, relapses into his morbid state during an air raid; although on the battlefield, prior to the manifestation of his hysterical symptoms, similar bombardments had no apparent effect. The maintenance of symptoms originated in the phase of inception of a primary hysteria is reinforced by the operation of expectation and its fulfilment by suggestion, and these cases of primary hysteria are carried on as tertiary or expectant hysteria. Naturally enough, the patient, when he comes to himself after the phase of inception, wants to know what happened to bring about the obvious alteration in his surroundings; either he is specifically told, or he works out an etiology for himself. Probably he is told that he has had a form of 'shell-shock'; ever afterwards he will expect to be disabled in the event of an explosion,

* *Proc. Soc. Psychological Research*, xix.

† Passes off, that is, from the subjective standpoint; throughout the greater part of the environment of determination, and through the whole of that of adjustment, there is an absolute limitation of the field of consciousness as far as the total individuality is concerned.

and, in that he is hysterical, this expectation will be fulfilled by suggestion. Anything that conduces to this expectation will conduce to its fulfilment; the sight of similar patients in the ward relapsing during an air raid will make his relapse all the more probable; tales of such relapses have the same effect. Even more will expectation be fulfilled if the centripetal orientation of his ego is conformed to thereby. As met with in ordinary practice, the majority of cases of expectant hysteria are those of the primary variety in the phase of establishment; we may, I think, go further, and say that in practice the majority of hysterical manifestations of all sorts, apart from 'conscious' hysteria, fall into this group. Expectant hysteria that has not begun as the primary variety is a definite group, but a relatively small one.

SECONDARY HYSTERIA.

Hysterical symptoms the onset of which was associated with pain somewhere about the body.

Disorders of this group differ from those just considered in that their symptomatology is less diverse; there is for the most part a general conformity to type. The rôle of pain in their manifestation is necessarily closely wrapped up with an emotional tone, and it is important to realize the biological significance of pain in relation to the emotions.

Pain, strictly speaking, is to be looked upon as a sensation analogous to sensations of light, sound, and touch perceptions; it differs from these in that it is invariably indicative of environmental hostility. It is a sensation, the occurrence of which, in the lower forms of life, implies potential destruction. In the case of other perceptions this does not obtain; perceptions arising in association with excitation of the retina, for instance, do not invariably imply imminent danger. In the case of those sensations which do have this implication, a state of the animal's psychology is induced which, through the very inevitableness of danger, has come to be recognized in the course of evolution as 'unpleasant', in that it is foreign to the mental and physical welfare of that animal. An animal that experiences such a sensation, with the associated psychical state, recognizes the menacing atmosphere of the environment, and takes steps to change its surroundings; the animal that recognizes this promptly and efficiently will, other things being equal, survive. The inevitable association of a sensation with a centrifugal emotional tone secures for that sensation the psychical recognition as pain. From this it follows that pain is not to be looked upon as a 'thing in itself'; given two stimuli, caressing touch and touch with claws and teeth,

the essential element at the basis of each is probably the same ; the environmental context, however, differs in the two cases, in that the latter invariably indicates hostility whereas the former does not ; the psychical state associated with the latter stimulus, therefore, is also associated with a centrifugal emotional tone, is not conformable with the welfare of the animal, and receives recognition as pain. The fact that pain is not absolute is demonstrated even in so highly evolved an animal as man ; in certain states of his psychology the ancient phylogenetic associations appear to be overridden, and what among the majority of people produces pain gives in certain cases pleasure ; the Flagellants of the Middle Ages are cases in point. But for the most part it may be taken that the inevitable association of a sensory impulse with a centrifugal emotional tone is equally inevitably associated with a psychical state recognized as implying danger, as foreshadowing a catastrophe, and therefore as being disagreeable ; such a psychical state being christened 'pain'.

Pain occurring in hysterical people is pain occurring in a centripetally orientated psychology ; the empirical ego is to such a psychology something to be guarded and protected at all costs. The experience of pain by such people is a direct menace to their egoistic peace, and it is liable to be countered by the dissociation of the painful area from their consciousness. It is, however, essential to realize that there is no dissociation of the psychical representation of the part of the body affected up to the time of the occurrence of the pain operative ; the memories and past associations of that part are preserved ; what happens is rather that from the time of occurrence of the pain there is a dissociation from the psychology of the patient, of all impulses coming from that part, and as far as he is concerned there is an isolation of that part from all events of the external environment.* The dissociation is rendered operative by the inherent relationship of pain to the centrifugal emotional tones, but such tones need not be experienced consciously as such. In so far as they are not, we have secondary hysterical manifestations and not primary.

But, we are faced by the fact that organic disease in hysterical people may be, and often is, painful ; there being no dissociation of the part of the body from consciousness. Thus, acute appendicitis, herpes zoster, perforation of a gastric ulcer, are associated with pain, and not with anaesthesia and paralysis. In fact, the more we go into these cases of secondary hysterical dissociations, the more we find that the precedent pain has been of no great practical

* This point will be dealt with again in the discussion of 'Psychical Dissociation'.

importance from the clinical standpoint; slight grazing skin wounds, fibrositis, blistered feet, and so forth, are the conditions *par excellence* which tend to become associated with these manifestations. In other words, the serious eventualities that call for prompt and dramatic treatment and subsequent careful attendance are the conditions in which we find pain unaccompanied with anaesthesia and paralysis; these manifestations of hysteria being found when there has been pain which, according to the patient's ideas, was treated casually and without the respect he felt to have been its due. The usual history in these cases bears this out: the patient saying that the pain existed for two or three days before the occurrence of the 'paralysis': that the doctor had misunderstood the case and had given no special treatment for it. In these cases the subsequent development of paralysis justifies the patient in his own mind against the doctor, and increases, or is in conformity with, his egocentricity. In the former class of case the surgical operation serves this purpose. In both classes of case there is consequent relief of the pain.*

These two elements, relief of the pain and support to his centripetally orientated ego, are the essential factors around which hysterical manifestations of the secondary order group themselves. It is not possible to say which is the more important of the two, but the most certain effect is obtained when the one is reinforced by the other.

The offending regions of the body in these cases are cut away from consciousness of external impressions, and the patient's peace of mind is thereby subserved. The curious combination of an entirely useless part of the body and mental comfort is exceedingly characteristic of this form of hysteria; it is in this form that the typical hysterical attitude of egoistic detachment is most strikingly encountered. Beyond the essential uselessness of the implicated region there is no characteristic behaviour; being removed from consciousness, the part in question is related to the empirical ego just as the hair or articles of clothing are.

The extent of the dissociation is strictly in accordance with the extent of the individual's primary somatic associational power; in

* As regards the reactions of hysterical people to pain, ideational or organic, as far as behaviour is concerned, this will be dealt with later. In a previous section, when discussing the clinical classification of functional nervous disorders, a group intermediate between obtrusively hysterical and apparently normal people was mentioned under the name 'hyperthymia'; and in so far as obtrusively hysterical people do not dissociate pain associated with an organic lesion, their behaviour in relation to such pain is hyperthymic. That is to say, the reactions or behaviour of an hysterical person to organic pain, when this is not dissociated, are of the hyperthymic variety, and will be described under that head.

that this is common to a great degree among all races of mankind, the symptoms of secondary hysteria do not show the variety characteristic of the primary group. At the same time, individual associational power is manifested to some extent. Thus, pain in the forearm may be followed in one case by an hysterical dissociation of the whole of the upper extremity; in another of the forearm only. In the latter case there is a more accurate associational power among primary somatic associations than in the former. So, also, aching teeth may be followed in one person by an anæsthesia of the oral mucous membrane; in another this anæsthesia is associated with loss of taste; in a third there is aphonia as well.

The chief manifestations of this form of hysteria* are: loss of the sense of smell; blindness; deafness; loss of the sense of taste; anorexia; limb paralyses; 'hemiplegias'.

Anæsthesiæ.—If it be remembered that in these cases the function or functions of the particular regions affected are non-existent in relation to current events in the external environment as far as the patient is concerned, there will be little need to discuss any of them in detail. For example, in the case of an hysterical anosmia, it is not only a loss of function of the first pair of nerves; there is a loss of function of the 'nose' as the patient understands it: he not only is unable to smell such substances as oil of cloves, oil of peppermint, and other substances stimulating the olfactory nerves, but also ammonia, which stimulates the fifth pair; in such a patient the cutaneous sensation over the face is normal.

In the case, again, of hysterical deafness, the function of hearing on the affected side is gone, and any test associated with hearing is not appreciated on that side. Thus, the patient does not discriminate in any way between middle-ear and nerve deafness; the application of the tuning-fork to the centre of the forehead brings about no appreciation of sound on the affected side any more than if that side were concretely separated from the body. The same, of course, applies to the Rinné test; there is no appreciation of sound at all on the affected side, whether over the mastoid or in front of the external auditory meatus.

Loss of taste in many cases is incidental, occurring in the general associational sphere of 'mouth', and often being associated with pain about the mouth.

* It will be seen later that no one symptom can be considered as typical of any one group of hysteria: symptoms of any one group being met with in the symptomatology of the other two. At the same time certain symptoms are more commonly met with in one or other of the groups.

Hysterical anorexia is of interest, in that it is one of the few hysterical symptoms that may endanger the life of the patient. Although it may occur as a symptom of secondary hysteria, it is perhaps more often met with in tertiary hysteria. When a secondary manifestation, it develops in the associational sphere of gastric pain and its relation to food; it is essentially determined in such cases by the appetite being a source of discomfort.*

Limb Paralyses.—The most dramatic of these secondary hysterical manifestations are those which occur when one or more of the limbs are dissociated. The affected limb, being useless to the patient and apparently out of his control, acts as an inert appendage to his body; but it must be remembered that the essential element of the disability is the sensory and not the motor. Such a condition when occurring as a secondary manifestation is invariably preceded by pain or discomfort in the limb subsequently affected; in that the limb is associated in his mind as a 'limb', as a unit in itself and homogeneous, dissociation is accompanied by motor as well as sensory loss. Subjectively the motor loss is absolute, but, the neuromuscular apparatus being anatomically healthy, the electrical reactions are normal. In the course of time, the limb being functionless, secondary disabilities take place: mechanical strains and physiological inequality of strength in antagonistic muscles bring about contractures; the quiescence of the limb is conducive to vascular abnormalities, livid discoloration and coldness; absence of the normal massaging action of the muscles on the skin is associated with disturbances of sweating in addition. If the condition be allowed to last long enough, there is wasting of disuse.

The sensory changes are of special interest. Their distribution is dependent on the associational dispositions activated as primary somatic associations by the patient; if he has associated his leg as a leg only, and apart from such crude regional differentiations as the foot and the thigh, then discomfort in the foot will be associated with loss of function of the whole leg. The extent of the sensory loss, taken in conjunction with his description of the initial discomfort, is a key to the patient's associational power; for the most part, however, there is a conformity of associations of the primary somatic group among the majority of mankind.

The dissociation of the limb being complete, the patient is

* Given that the appetite is a source of discomfort, not on account of pain after food, but through personal associations formed in its sphere by the patient, then of course we get an anorexia that is not a secondary but a primary hysterical manifestation.

conscious of no afferent impulse from it; joint sense, vibration sense, touch, pain, and thermal sensations are not appreciated. There is no element of sensation; however cruelly the limb is handled, there is no response on the part of the patient. As far as he is concerned, the limb does not exist. This is contrary to what obtains in the organic anæsthesiæ, in which, however profound the disturbance, a certain degree of consciousness of the part remains to the patient.

‘Hemiplegia.’—Hysterical affections of this nature may be confined to one side of the body, involving the face, arm, and leg of that side. They are developed in the sphere of primary somatic associations in connexion with conceptions of ‘leftness’ and ‘rightness’. Such conceptions, although perhaps not so absolute as those concerned with the limbs as limbs, the eyes as organs of sight, and so forth, are nevertheless common to mankind in the same way; and in so far as the sides of the body are associated psychically as units in themselves, such associations are liable to hysterical dissociation, with the manifestations of hemi-anæsthesia and hemiplegia. Aphasia does not occur in these cases as a pure secondary symptom in itself; it may be met with as a superadded expectant symptom in the event of there being a close association (secondary somatic) of the mouth with speaking. The conceptual mechanism of the secondary hysterical hemi-anæsthesia is prettily manifested in connexion with the vibration-sensation in such cases. It is well recognized, of course, that in organic anæsthesiæ affecting one side of the body, the sternal periosteum transmits the vibrations as one unit; in such an anæsthesia on the left side the vibration-sensation is not lost over the left side of the sternum; the bone vibrates as a whole and the vibrations are perceived on the right side. In an hysterical hemi-anæsthesia, unilateral loss of the vibration-sense over the sternum is found; we are dealing in such cases with the patient’s ideas of rightness and leftness; we are dealing not so much with a part of the body as with the idea of a part of the body. It is important to bear this in mind; otherwise there is a danger in these secondary hysterical manifestations of considering them as being more concrete than the other hysterias; of looking on them as being ‘on a lower plane’, and more closely allied to organic defects.

Amnesia.—An interesting and instructive group of symptoms, met with among hysterical people, is one which is characterized by forgetfulness of the relations of the individuality to the surroundings. Such forgetfulness may for a time be complete, but such completeness is as a rule of short duration.

In the recent war, for example, cases of this nature were encountered in soldiers who were found wandering about the country away from their camps and unable to give any account of themselves; they could not remember their names, parents, regiments, or how or why they came to be in the places in which they were found. In the course of time certain apparently isolated memories returned; these linked themselves up with others, and ultimately the patients returned to an apparently normal state. At the same time careful examination after their restitution to the normal showed that many details of their experiences during the phase of invalidation were not recovered; in some cases the same loss existed for experiences associated with their lives in the periods leading up to the disability. With the amnesia, there were occasionally associated other hysterical symptoms, such as inability to speak or to see or to hear.

Some of these cases are to be looked upon as examples of primary hysteria in the phase of inception, but others show certain features which render them atypical when considered from this standpoint. In the event of the history indicating an association between the onset of the abnormal state and an emotion-producing incident of absolute value, such as an exploding shell at close quarters, then their primary nature is established beyond doubt; any added symptom such as deafness being determined either by the re-activation of a somatic-association group in relation to a psychical dissociation process in the environment of determination, or as a secondary hysterical manifestation in the way already described. But many—the majority—of these cases are characterized by an apparently complete absence of any such emotion-producing factor; the patient often enough being a young recruit undergoing his preliminary training.

In such people we are dealing with a pure secondary hysteria, arising not so much in connexion with the primary somatic associations as in associations of the patient's own individuality (or his ideas of his own individuality); the factor of somatic pain operative in the other forms of secondary hysteria being replaced by that of 'humiliation' or injured self-respect. The patient's conception of his individuality as constructed by him in the environment of determination is incompatible with the environment of adjustment, and in so far as it is out of his power to alter this environment, his individuality, as far as he is conscious of it, is isolated from current events.

As a general rule, the chief subjective features of his individuality rapidly return to consciousness, and patients of this group do not manifest completeness of amnesia for long; but it will be generally

found, even in cases apparently cured, that memory for certain events is never regained. As a rule, the incidents in question are those which immediately preceded and succeeded the inception of the abnormal behaviour.

It must be remembered that in the case of people who are not obtrusively hysterical, their own ideas of their individuality are intimately and inextricably linked up with a host of associations, somatic and exotic; such ideas are constantly altering in the atmosphere of new associational links formed; and dissociation of such ideas *en bloc*—the enucleation of the patient's own ideas of his own individuality from these multifarious associations—is correspondingly difficult. But in the case of the obtrusively hysterical person, as we have already seen, there is a characteristic tendency towards what has been called 'ego-isolation'; one of the outcomes of which is to complete the patient's ideas of his individuality at a comparatively early period and to keep such ideas aloof and intact, unaffected by daily experiences, as far as possible. Of course, as time goes on, the environment of adjustment works its inevitable effect and lessens this isolation; as the person gets older his hysterical tendency fades. But if in youth the environment of adjustment prove excessively unpleasant, in the absence of definite somatic pain or of a suddenly occurring uncontrolled emotional tone of the centrifugal order, then this isolated ego is liable to be dissociated from current events *in toto*, with consequent amnesia for such events: progressive amnesia. The earlier the ego-fixation occurs in the life of the patient, and the more hysterical he be, the less likely is he to have incorporated external associations in his individuality during his early life, even though these have been registered in memory; such 'memories' during his period of amnesia, when revived objectively, are not recognized, and the patient is said to have 'retrograde amnesia' as well. These points will receive further consideration when discussing the phenomenon of psychical dissociation.

Secondary hysterical manifestations are maintained as tertiary just as in the case of primary hysteria; the conformity of the new surroundings to the centripetally orientated ego has an added and a powerful influence in perpetuating such symptoms. In the case of the secondary hysterical amnesia, the element of expectation would appear to have a peculiarly dominant rôle in the maintenance of the forgetfulness.

TERTIARY HYSTERIA.

Hysterical symptoms the onset of which are associated with a situation conducive to the expectation of pain in certain regions of the

*body, the associational connexion of the pain with such regions being either direct or indirect.**

Hysterical symptoms which are tertiary from the outset are characteristically developed around associations of the three main groups, archaic, primary, and secondary. The most typical are those associated with the secondary somatic; certain of these constitute the most common hysterical manifestations encountered. It may be well to describe two quite typical symptom-groups as a means of gaining some insight into the *modus operandi* of this form of hysteria.

Hysterical Muscle Spasm.—The experience of the war has brought into prominence a very characteristic group of cases, to be seen for the most part in orthopaedic practice. They are cases which are associated with persistent spasm of a muscle or muscle-group, with consequent characteristic joint deformity, and the region of the body most frequently affected is the foot. In such cases we have an hysterical equinovarus, the foot being inverted and pointed. If the deformity be allowed to persist, we get secondary deformities in the course of time—flexion of the knee, tilting of the pelvis, and scoliosis. The muscle-spasm may be intense, the tibialis posticus in particular being felt as a rigid band, and there may be very considerable difficulty in overcoming this spasm mechanically.

The usual history in such a case is that the patient in the first instance was under treatment for some injury; the site of the injury is either the affected leg itself, or this leg has been brought into the sphere of the injury through methods employed in the treatment—immobilization on a splint, and so forth. In some cases, of course, the foot which is subsequently inverted is the site of the injury, and then the associational mechanism is simple and direct. In any case, during the period of treatment of the initial injury, and generally when the leg or foot has been released from the splint, the typical inversion is found. In the majority of cases the hysterical inversion is on the side of the initial injury, but this need not necessarily obtain; it occasionally happens that inversion of the foot on the

* From what has been written above, it is evident that the group of tertiary hysterical manifestations is large and complex; it comprises manifestations which belong to it *ab initio*, and those which, originating either as primary or secondary hysteria, ultimately are perpetuated as tertiary hysteria. The above description applies to the comparatively limited group which is tertiary from the beginning, and the essential points in this description are the element of expected *pain* and the fact that such an element is operative from the very beginning. It must be emphasized that such symptoms form but a part of the tertiary hysterical group, the full description of which would be: *A group associated with hysterical symptoms arising or perpetuated in an atmosphere conducive to their expectation.*

side of the lesion is followed by inversion of the other. The fundamental point to remember in these cases is that the inverted foot is commonly manifested, quite apart from hysteria, as an attitude of ease and as one of protection. If the feet of a man who is resting a book on his knees be watched, they will in the majority of cases be found to be inverted. Given that a man has pain about the foot, he tends to invert that foot; this is frequently to be seen in people whose boots are too tight; in such cases eversion of the foot is avoided. The same position of inversion is to be seen in the event of there being any sore place on the foot, and especially in the region of the toes. The foot inverts in these cases for the avoidance of pain and for increased protection. Further than this, it may be said that in the event of an expected injury to the foot, there is a liability to inversion, the attitude of 'shrinking' under such circumstances commonly taking this form; the position of defence as far as the foot is concerned being one of inversion.

In the case of an hysterical patient, given that there is any association between the part of the body injured and the foot, either direct through the application of a splint, or indirect through secondary somatic associations activated in the environment of determination, an hysterical inverter spasm of the foot is liable to be brought about as a protector-mechanism. It must be borne in mind that in the true tertiary hysterical manifestation of this kind the protective spasm is automatic, and is brought into being outside the consciousness of the patient. In a previous section it was suggested that such inevitable completion of an associational connexion occurred in a setting in which, through the characteristic non-diffusion of centrifugal emotional tones, collateral associational dispositions were not activated to any extent; the re-activation of dispositions by the responsible emotional tone induced by the application of the splint, as an example, is associated with an inevitability of somatic response in accordance with the non-diffusibility of the emotional tone in the activation of such dispositions in the first instance.

The essential elements, then, in the manifestation of this form of tertiary hysteria are :—

1. The expectation of discomfort in the region of the foot in the environment of adjustment, 'set' by the activation of specific associational dispositions in the environment of determination in the atmosphere of a centrifugal emotional tone.

2. Non-diffusibility of this responsible centrifugal emotional tone in the first instance, whereby the specific associational dispositions activated in the environment of determination are so activated more or less exclusively, in the absence of the normal activation of collateral non-specific associational dispositions.

3. The occurrence in the environment of adjustment of an event that in some way is linked up associationally with the above associational sphere; the associations in question being as a rule of the secondary somatic variety, and the event occurring in the atmosphere of a centrifugal emotional tone.

Now the criticism may be raised: From the above description an absence of collateral associations is an essential as regards one part of the mechanism, whereas it is essential that such collateral associations be operative as regards another part; in what way are these statements to be reconciled? For the proper understanding of these points it must be remembered that in these cases of pure tertiary hysteria we are dealing with phenomena that differ from those already considered in that they are concerned very much more exclusively with associational dispositions that subserve somatic response (*Fig. 1*). The human being normally in the sphere 'emotional tone—somatic response' interposes many associational dispositions, and, to speak spatially, a preceding disposition in its activation modifies its successor. The concrete paths which are intimately concerned with the motor apparatus are or ought to be modified functionally by the activation of hosts of such dispositions (of varying 'ideational' quality) in the performance of their specific function; we may look upon such paths functionally as 'emerging' from a network of dispositions the functional activity of which is bound up with experience, judgement, and so forth. And the modification of motor activity may be manifested up to the very last; the very act may be modified during and after its inception. The defective associational activation typical of pure tertiary hysteria is in the sphere of those dispositions that modify and adapt motor response; the concentration of emotional activity characteristic of hysteria has been in their case at the expense of the collateral associational dispositions in the sphere of motor manifestations, and in such people the motor manifestations are all more or less inevitable. But at the same time, again to speak in terms of space, collateral associations towards the affective end of the chain have been activated in the environment of determination, and they function in that of adjustment, but their function is liable to be followed by this inevitability of motor response. It is among these affective associational dispositions that the particular element at work in the abnormal manifestation is operative, such affective associational dispositions being those referred to as the necessary collateral associational dispositions.

Given, then, that an hysterical patient in the sphere of 'splint' has formed affective associations with 'pain in the foot' in a centrifugal emotional tone, there is liable to be, among the associational dispositions which subserve motor response, an activation predisposing

to inversion of the foot whenever, in the sphere of the appropriate emotional tone, a splint is encountered.*

Once the foot has turned in, the condition is maintained in association with one or more of the following factors:—

1. The continued use of the splint. The putting up of the affected foot in plaster-of-Paris splinting to correct the deformity is the ideal way of perpetuating it.

2. The inverted foot feels no pain, so that, as long as the expectation-of-injury-atmosphere persists, there is no *prima facie* need for the hysterical possessor to bring about any alteration in the state of affairs. The foot being in the abnormal position in order to avoid pain, and there being no pain when it is in that position, the inversion, so to speak, is justified.

3. The foot being inverted, and the patient being satisfied consciously that the splint has been at fault (or whatever the trigger-mechanism was), the condition is maintained as an expectant hysteria just as in the case of the primary and secondary manifestations.

If, in addition, the new environment of invalidism be in conformity with the patient's centripetally orientated ego, relief of the deformity is all the more unlikely.

Other tonic hysterical muscle-spasms are: *Adductor spasm of the arm*, developed in the atmosphere of expectation of injury to the trunk; *tonic blepharospasm*, in a similar atmosphere as far as the eyes are concerned; *adduction of the thighs* (perineum, vulva); *clenching of the fingers into the palm with the thumb inwards* (hand); *trismus* (mouth, teeth); *tonic sternomastoid spasm* (face). This last spasm is not at all uncommon, and like all these hysterical spasms, finds its analogue in normal people. If we watch a child pulling a cracker, or lighting a squib, we see the spasm developed as it should be, and quite properly; in hysterical cases we have an equally proper response, only the factors of the atmosphere of expectation of injury

* The splint 'trigger-mechanism' is here taken as the example, and it is, in practice, a common mechanism. There is no absolute specificity in the splint, however; it acts through the associated atmosphere of expectation of injury to the foot. The association of this atmosphere with a splint is more or less common to all mankind, and the splint is therefore the most frequently encountered single factor of this type of case. It is not an essential factor, for *anything* which, in the environment of determination, has been associated with the idea of injury to the foot, may, when encountered in that of adjustment, act in the same way. These tonic hysterical muscle-spasms are protective mechanisms to safeguard the part of the body concerned from an expected injury, and it is this atmosphere of expectation which is essential in their formation. Such spasms are common enough in normal people when expecting an injury anywhere in the body; in hysterical patients they are activated apart from consciousness.

are not apparent.* A somewhat difficult tonic spasm to explain is the *Babinski reflex spasm* affecting the fingers. In this condition we have an immobile hand, the fingers and thumb being held rigidly in a line with the palm. The expectation of injury here would appear to be rather one of *pain on movement* of the hand and digits, the essence of the condition being the immobility of all the joints concerned.

Clonic Spasms.—Protective hysterical muscle-spasms are tonic in character, and conversely we may say that tonic hysterical muscle-spasms are protective in their formation. But all hysterical muscle-spasms are not tonic: they are met with as clonic manifestations. Such clonic spasms affect as a rule the sternomastoids, the eyelids, the pectoral muscles, or the limbs as a whole, one or more of them. In these cases we are not dealing with tertiary hysteria as far as inception is concerned, but rather a form of the primary type. The following two cases may be taken as examples of this particular form of spasm: In the first a young woman lying in bed heard the crash caused by her mother falling downstairs: she turned her head violently towards the noise, and clonic spasm of the sternomastoids developed. In the second, a man, reading a book which he was holding open on his knees, was alarmed by the detonation of a bomb close by: he violently contracted his pectoral muscles as though to retain his hold on the book, and clonic spasm of these muscles developed.

If now we compare these cases with the tonic spasms, we find certain points of interest. In the latter cases we have the expectation of injury, an absence of any violent emotional tone, and the gradual development of the spasm. In the former we have no preceding expectation; there is a sudden rise into consciousness of an emotional tone of great intensity, and an immediate development of the spasm. In both we have the element of fear: the emotional content of both atmospheres is centrifugal; but in the one the emotional tone is developed in association with parts of the patient's own body, in the other in association with external objects.

A study of the emotions as a whole leads to the conclusion that the somatic manifestations of a sudden emotional tone of great intensity are kinetic, whereas those of a gradually developed tone

* A very pretty illustrative example of this mechanism in hysterical torticollis was under my care at the Manchester Royal Infirmary recently: the patient was a young man, and a hairdresser by occupation. The condition developed in association with an expectation of injury to the face—noise made by his scissors: the association was formed during boyhood. He was a right-handed man, and the muscle affected was the right sternomastoid, turning the face to the left.

are static,* and a consideration of these hysterical muscle-spasms leads us to the fact that even in hysterical people a sufficient degree of control has been attained, even among emotional tones of the centrifugal order, to render static behaviour possible as an hysterical phenomenon. We have seen above the elements at work which tend to maintain the tonic hysterical muscle-spasm: broadly they may be said to be the persistence of the idea, primarily out of consciousness, that the affected part of the body is endangered, and the fact that in the abnormal position assumed that part of the body is not painful. In the case of clonic spasms, undoubtedly the uncontrolled emotional tone operative runs riot for a time, and the spasms are violent in proportion, but the very violence of the somatic response in the course of time is associated with subsidence of the emotional tone. If these cases be systematically watched, it is found that the continuous clonic spasms of the initial phase give way to a stage in which they are only present at certain times, such times being those which are themselves associated with an emotional tone not necessarily or directly connected with the spasm in question; and in untreated cases such spasms may, in the course of time, be manifested on very slight provocation indeed.

The mechanism of such persistence is a little obscure, but it appears to be bound up with the fact that movements initiated involuntarily, under the influence of a violent emotional tone, are, of all available movements at any time, the most readily performed. This is the basis of 'habitual action', and although we can say that these clonic hysterical spasms are perpetuated as habits in the course of time, the actual mechanism at work in the production of a habit is not rendered any clearer. We might say that the somatic associational dispositions activated in such circumstances have their intrinsic 'resistance' lessened so as to put them on a semi-permanent footing; but it might equally be said that the dispositions in question, on account of their lowered resistances, conduce to a non-diffusion of an emotional tone through them and to uncontrolled emotionalism in that particular atmosphere. It is possible that both factors are operative; when we consider the biological importance of swift turning of the head towards an alarming focus, we can easily understand the importance to the animal of such dispositions as are operative in the mechanism being specifically of low resistance; given that such a movement has once been performed in an atmosphere of emotional uncontrol, the resistances encountered may be thereby lessened. One factor which renders persistence, in

* This is, of course, one of the essential factors at work in the differentiation of the centrifugal from the centripetal emotional tones.

the earlier stages especially, possible, is the fact that movements associated with an emotion tend in themselves to re-induce that emotion, although in progressively diminishing intensity.*

The tendency to habitual action is undoubtedly favoured by anything which lowers the resistance normally obtaining throughout specific associational somatic dispositions, and such lowering may occur as a congenital or acquired phenomenon. In the former case, given that the resistance be definitely lower than that which normally obtains among the same dispositions of other animals of the same species, we are dealing with mental defect. In the latter case the following factors have to be considered:—

1. Given that an 'experience' in the environment of determination has been accompanied by psychical dissociation, then there is perpetuation of the associated somatic dispositions subserving a specific mode of behaviour, a state of affairs one element in the production of which is increased facility in the re-activation of such dispositions, and which may in part at any rate be associated with a lowering of resistance in their sphere.

2. Habitual action is closely bound up with the mechanism of (1), but the operation of psychical dissociation is not necessary for

* The Freudian theory that these movements by their persistence indicate a subconscious persistence of a wish, the fulfilment of which would be associated with a situation in which such movements are applicable, may be mentioned here. According to this school of thought, the clonic spasms in the case of the girl just described are, so to speak, the outward and visible signs of a subconscious desire on the part of the patient for a situation in which such movements are appropriate; for one which is fraught with danger to the mother. Such spasms are described as 'wish-fulfilments', and in the event of there having been no such wish on the part of the patient such spasms would not have developed. It is assumed that the detestability of such a wish is associated with its dissociation from consciousness on the part of the patient.

It seems to me to be unsatisfactory to link the conception of wishing, which is so essentially a conscious process, with unconsciousness, and to be preferable to describe the above state of affairs as the activation of somatic associational dispositions of inherent or acquired lowered resistance in the atmosphere of an uncontrolled emotional tone. Given that the resistances are inherently lower than normally obtains, we are dealing with a degree of mental defect; in the event of their lack of resistance being acquired, we would appear to be dealing with somatic associational dispositions perpetuated around a dissociated incident in the environment of determination. The dissociated incident may possibly have been the desire on the part of the patient for the death of her mother, but most certainly it need not necessarily have been this; situations of fright in childhood which were associated with immediate turning of the head are innumerable, and any one of them may have been the primary specific incident. The assumption in these cases that the spasm is to be referred to one particular type of incident seems to me to be unwarrantable, although of course it would be impossible to deny the possibility of its occurring from time to time. Here, as in most cases, each example is to be judged on its own merits. It seems to me that the persistence of the clonic spasms is best explained on the ground of re-invocation of the emotional tone by the performance of specific actions, and habitual action.

the formation of a habit in man. An associational disposition that is frequently activated is all the more readily activated; the readiness of subsequent activation is rendered all the more certain if the earlier phases of activation are associated with an emotional tone of some considerable intensity, and the more intense the emotional tone the more rapid the acquisition of habitual action in the sphere of appropriate somatic response. In that the hysterical person is one whose emotionalism is, relatively, uncontrolled, it is in such people that we have the most prompt development of habitual action out of the various somatic responses. But, as said above, psychical dissociation is not a *necessary* element in the atmosphere of habit formation, although of course its operations are especially liable to give rise to such formation.

As regards, therefore, the clonic hysterical muscle-spasms, we may say that they arise in an atmosphere of a centrifugal emotional tone of sufficient intensity to be associated with psychical dissociation at the time of their inception, the intensity of the tone operative being associated with kinetic somatic behaviour; and in that such behaviour relieves the emotional tone, there is a tendency for these spasms in the course of time to become intermittent. In their earlier phases the violence of the behaviour re-induces the emotional tone, and such spasms at their inception tend to be more or less continuous. In so far, however, as emotional tones re-induced in this way are of feeble intensity than those primarily operative, the vicious circle is gradually broken. In their succeeding phases these spasms are manifested in atmospheres of centrifugal emotional tones of gradually lessening intensities, and in their final phases they occur as habits, in emotional tone atmospheres of minimal intensities.

These clonic hysterical spasms are of interest, because they are, in their essentials, primary hysterical manifestations, occurring apparently in the environment of adjustment, and in no way 'laid down' in that of determination; the environment of determination in their case being operative only in so far as it predisposes to the operation of psychical dissociation and emotional uncontrol in later life. It is due to the fact that they do occur in adult life, when the emotional control, though defective, is necessarily greater than that which obtains in childhood, that the somatic manifestations appear immediately after the incidence of the emotion and without the intervention of the latent interval which characterizes primary hysteria determined in the usual way. Apart from this, the mechanisms in the two cases are essentially the same: the transference *en bloc* of emotional-tone 'energy', and the absence of its diffusion through available anatomical associational dispositions, with perpetuation of the somatic associational dispositions activated at the time.

In certain cases, tonic hysterical muscle-spasms arise as results of a similar mechanism; they are then primary at their inception, but they resemble the ordinary form (tertiary) in that they are essentially protective. In the event of a patient being *suddenly* confronted with imminent and apparently overwhelming disaster, a tonic (protective) muscle-spasm may develop immediately in an atmosphere of a centrifugal emotional tone sufficiently intense to be accompanied by psychical dissociation. The spasm resulting is such as protects the region menaced, but it is usually more widespread than those of the pure tertiary variety; for with the central protector spasm there is frequently implication of the muscles which subserve withdrawal of the limb from danger. Such spasms are occasionally seen in the region of the limbs in hysterical people whose work is associated with moving machinery, and during the war one condition in particular was encountered that may be considered specific as far as this group is concerned. This was the 'general flexor spasm' of the whole body; the fingers being clenched into the palm, the forearms flexed on the arms; the arms adducted; the vertebral column kyphotic, the thighs flexed on the abdomen and the legs on the thighs. The whole appearance is one of stooping, and the condition was almost always associated with a history of sudden frantic 'ducking' in the atmosphere of an exploding shell. These cases conformed strictly to primary hysteria; and their characteristic statement was that while walking along a trench they heard an explosion and then lost consciousness; that when consciousness returned they found their bodies bent in the manner described. Here again, and through the operation of the same factors described in the case of the hysterical clonic spasms, the somatic manifestations are manifested directly, without any intervening latent period.

These cases of primary hysterical muscle-spasm are of the very greatest interest as throwing a light on the mechanism of psychical dissociation. Considering their context, it is, ordinarily speaking, impossible to disregard the probability of the hysterical symptom being directly associated with the incident responsible for the initial emotional tone; and to institute an elaborate psycho-analytical research into early childish memories 'repressed into the unconscious', in order to find among them a 'cause' for the particular spasm, appears unreasonable. Childhood, in that it represents for the most part the environment of determination, is certainly associated in these cases with the factors which predispose to the non-diffusion of centrifugal emotional-tone disturbance through available anatomical associational dispositions—for the emotional uncontrol, in other words, which admits of the operation of psychical dissociation; this, however, is the extent of its rôle in these cases. The primary

hysterical muscle-spasms go a long way to show that the operation of psychical dissociation is, in all probability, much more simple than is commonly supposed, and that it is manifested not in a cutting away from consciousness of certain psychical representations of an experience, but rather in the non-registration, psychically, of such experiences in memory as commonly understood.

The criticism may be made here that in these cases of primary hysterical muscle-spasm the patient does occasionally remember the noise of the explosion or the accident with the machinery as the case may be; but such statements are liable to be deceptive; the

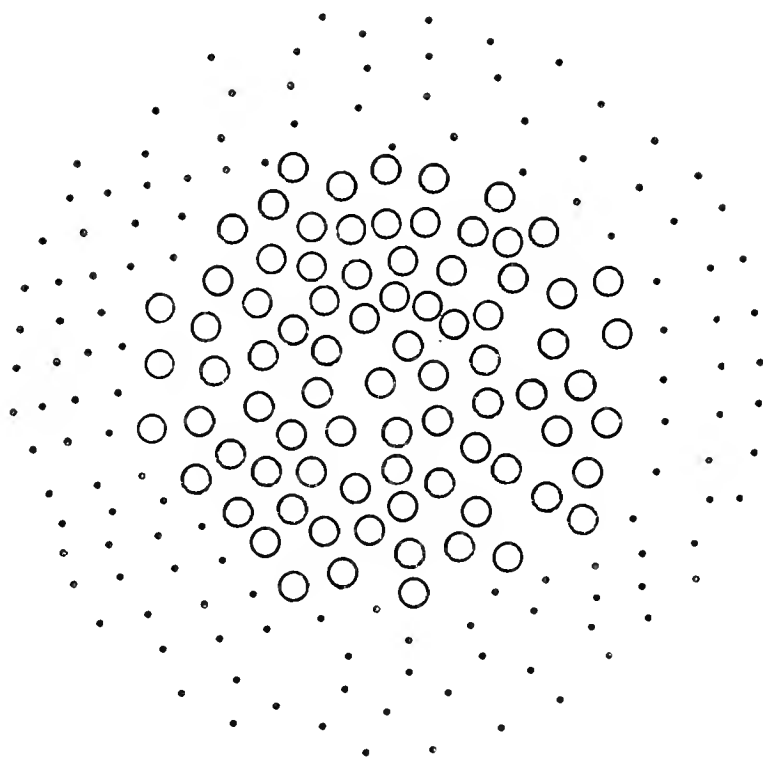


Fig. 5.

'memory' either being extremely incomplete and covering only the initial stages of the incident, or reconstructed through probability or through subsequent information.

In *Figs. 5, 6*, the circles may be taken as representing 'available anatomical associational dispositions', and the dots as dispositions which subserve somatic response. In *Fig. 5* we have the state of affairs with regard to an incident before the experience of that incident; in *Fig. 6* the psychical reaction of a normal individual to such an experience. In the latter case the available dispositions have been in activation, and the types of somatic response possible are

many and varied. These schemes represent a state of affairs at one particular time, and must not be taken as indicating permanence or impermanence of any particular relationship between an emotional-tone disturbance and the anatomical associational dispositions activated. *Fig. 7* (see p. 148) may be taken as representing the state of affairs when the incident in question is experienced by an hysterical person, giving rise to primary hysterical manifestations; such as occurs

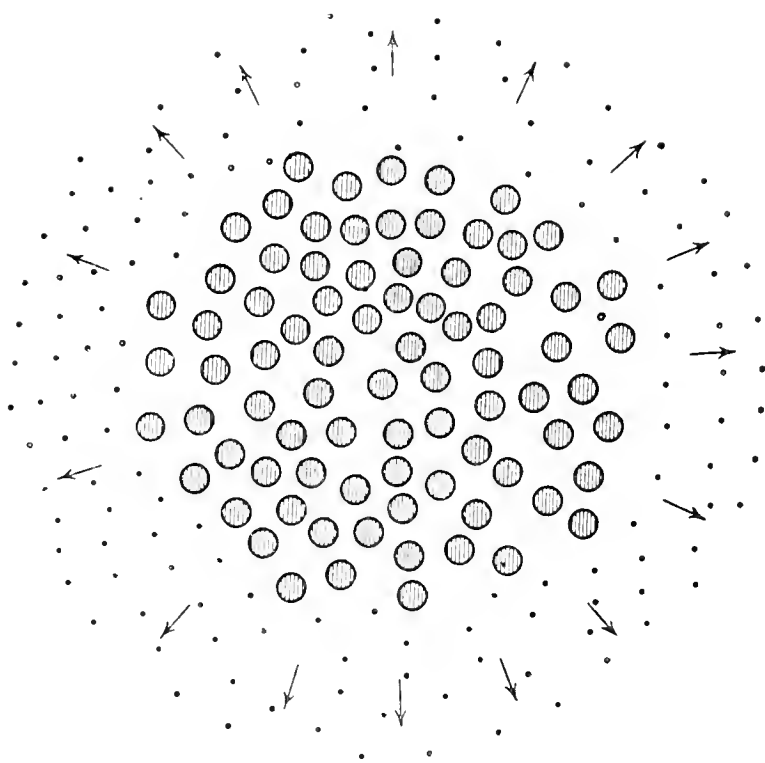


Fig. 6.

ordinarily in the environment of determination and that of adjustment respectively: whereas *Fig. 8* (see p. 149) represents a similar experience in the case of an adult, giving rise to a primary hysterical muscle-spasm with apparent 'memory'. In both cases, in that we have a non-activation of many available associational dispositions, there is a tendency to automatic somatic response.

To summarize the functional muscle-spasms, we may say that:—

1. They are hysterical in nature.
2. They fall into two groups clinically, the tonic and the clonic.
3. They also fall into two groups psychically, the tertiary and the primary, but these groups do not respectively represent the

clinical divisions. All the clonic spasms are primary, but some of the tonic spasms are tertiary and some primary.

4. Tonic hysterical muscle-spasms are protective in origin, being directed towards the shielding of a threatened part of the body from injury. For the most part they are of the tertiary variety, developing in an atmosphere of expectation of injury, and psychical dissociation does not play a dominant rôle in their production. They are of gradual onset, and are maintained by the persistence of the idea of

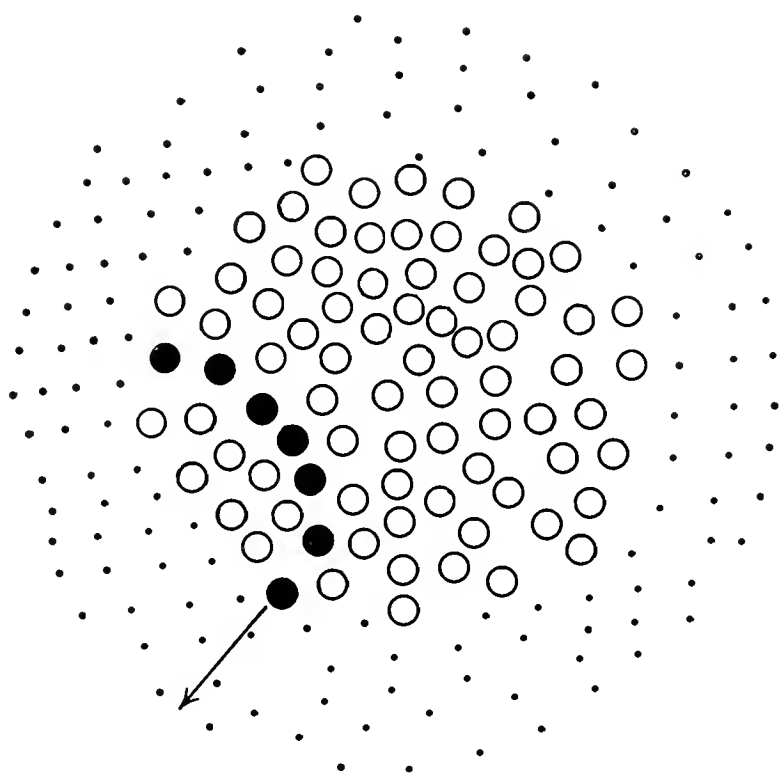


Fig. 7.

injury, the absence of pain while the spasm persists, and by conformity of the new environment of invalidism with the centripetal orientation of the patient.

The primary tonic spasms differ clinically from the tertiary in that they show a tendency towards a more extensive muscular implication than is necessary for the pure protection of the part menaced; they differ from them psychically in that psychical dissociation plays a dominant rôle in their production. They are strictly in accord with the primary hysterical manifestations already considered, differing from them only in the fact that they are formed and manifested in adult life, in an apparent environment of adjustment, and without the occurrence of any lengthy latent interval between the

incidence of the emotional tone and the development of the spasm.

This absence of any latent interval would appear to be associated with the fact that, in so far as these spasms do occur in adult life, they occur in people whose emotional control, though defective, is relatively greater than that which obtains in an hysterical environment of determination; a certain feeble memorization of unessential elements of the catastrophe before the cataclysm occurred may be retained; more elaborate memories are reconstructed subsequently;

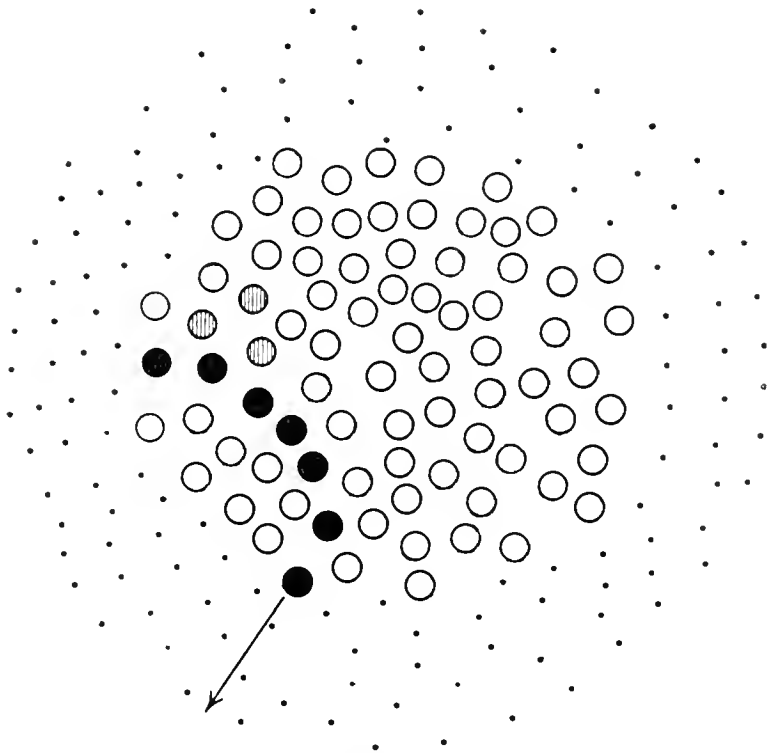


Fig. 8.*

the spasm, after the period of inception, is maintained mainly by expectation as a tertiary manifestation.

The primary tonic spasms only differ from the tertiary in the violence and unexpectedness of the initial emotional-tone incidence.

* In the above diagram the shaded circles indicate a degree of diffusion of the emotional tone which is compatible with a certain degree of memorization of part of the incident responsible. This part, however, in the presence of psychical dissociation, is always inconsiderable, and never concerns the actual 'nucleus' of the incident, which undergoes dissociation and which is non-registered psychically in memory as generally understood.

5. The clonic spasms are primary hysterical manifestations; they are not necessarily protective, though they may be. What has been written above as regards the primary tonic spasms applies also to the clonic. They are maintained in the course of time as habitual actions.

Hysterical Vomiting.—Another and an extremely important group of pure tertiary hysteria is characterized by vomiting, and most of the cases of 'functional vomiting' are of this nature. In some respects the associated psychical mechanism is simpler than in the case of functional inversion of the foot, for in the majority the connexion of the vomiting with the attributed cause is readily intelligible.

In a series of 45 such cases in soldiers, in which a detailed examination was possible, the chief factors operative appeared to be the following :—

Associations with vomiting.—27. In 21 the association was direct; the patient had himself suffered from abdominal pain and vomiting in childhood. In 6 it was indirect and associated with vomiting in the parents. Direct and indirect associations were present in 6.

Gassing.—20.

Dysentery.—5.

An interesting feature of these cases was brought out by an examination into their associations. In 36 these were of the recent primary order, and were exceedingly simple. The reaction times in these cases were more or less uniform for each patient; 'dissociation-indicators' were not characteristically present. In a certain number the associations were still more primitive, as indicated by repetition of the test-word, 'clang' responses, and short reaction-times. In other words, 80 per cent of these cases were mentally at the simple end of the scale of human psychology, and in certain of them indications of definite mental defect were present.

The *modus operandi*, then, would appear to be as follows: There is a group of people whose psychology is characterized by its simplicity; this need not amount to definite mental deficiency, although it may. Such people, having worked out a cause for some effect in their early life, are not normally open to criticism as far as this cause is concerned; there is defective associational activation in the sphere of kinetic body response. In the great majority of these cases there has been some association with abdominal pain and vomiting which has at one time rendered specialized diet advisable; in the course of time ordinary food is looked upon as provocative of pain and vomiting, and in the event of their having to take

ordinary food there is great risk of vomiting supervening; in their associational dispositions there is an inevitability of somatic response as vomiting in the associational sphere of food. In other cases in such people the initial disability which has rendered ordinary food obnoxious has been dysentery; of course, in civil life any abdominal illness, the treatment of which has been associated with modified diet, will act in this way, provided the patient is young enough or sufficiently hysterical. In other cases, again, some particular event which is popularly associated with vomiting has been the trigger-mechanism; during the war, of course, gassing fulfilled this rôle. Given that a patient who has had at one time an abdominal disability be subsequently gassed, then he is all the more likely to manifest hysterical vomiting. In civil life, hysterical vomiting is not infrequently met with during convalescence after operation, and in this case the anaesthetic given has the value of the gassing of soldiers. In such patients there is as a rule a history of abdominal illness in childhood.

In the majority of cases of hysterical vomiting, in the 36 described above, there was a conspicuous absence of any emotional tone at the time of onset of the vomiting; such emotional element as has been responsible occurred at the time of the early abdominal disability. There was no period of dazedness; the patients conformed to those with hysterical inversion of the foot in that the condition 'came on quite by itself'. In the remaining 9 an emotional tone could not be excluded in all, and in some a period of dazedness was present at the inception of the vomiting; such cases were not tertiary hysterical vomiting, but primary, in the sphere of a dissociated incident in the environment of determination. In no case could the condition be associated with any sexual tone.

Maintenance of Hysterical Symptoms.—It has been frequently stated above that hysterical symptoms, originating as primary or secondary hysterias, are maintained as tertiary or expectant hysteria; the greater number of cases of tertiary hysteria are in reality cases of primary and secondary hysteria in the later stages. These differ from those cases which are tertiary at their inception in that there is an element of conscious construction in their mechanism. A patient who has suffered from a 'fit' as a primary manifestation on hearing a bomb explode at close quarters will in the course of time—and the time as a rule is not long—consciously expect such an attack whenever he hears an explosion; he will with increasing consciousness activate associational dispositions in the sphere of his own ideas of his attack. The more his mind dwells on his attacks, the more

elaborate the associational dispositions activated and the more 'educated' the accompanying hysterical behaviour. The same applies in the case of secondary hysteria, only the outward signs of the resulting behaviour are of course negative. In the case of pure tertiary hysteria there is a minimum of dissociated systems necessarily at work; we are in reality dealing with cases of mental deficiency; in the diminution of such dissociated systems and their accompaniment, perfected somatic behaviour, we have an inevitability of somatic behaviour associated apparently with quantitative deficiency in the somatic associational dispositions activated in the environment of determination. At the same time, even in such cases, the associational dispositions used in the environment of determination in the sphere of a specific action—inversion of the foot, or vomiting, as the case may be—are almost certainly less than those available; so that, even in cases of hysteria that are tertiary from the outset, we have the possibility of elaboration. Such cases, then, conform strictly to cases of primary and secondary hysteria in the phase of maintenance.

These considerations lead to an interesting conclusion, and that is that in no case of hysteria, apart from the initial attack, can a conscious element be altogether excluded; the longer the duration of the symptoms the larger the element of consciousness is likely to be. Certainly in the more elaborate manifestations, in the course of time the mechanism is to be looked upon as purely conscious and purposive; the somatic manifestations are rendered easier by their frequent performance, and this is the extent alone to which real hysteria is operative in such cases.

This mechanism is instructively illustrated in cases of functional inversion of the foot which have undergone elaboration in the manner referred to. As associational dispositions are consciously activated in the sphere of somatic response, the essential inevitability of the spasm progressively disappears; or, in other words, the spasm becomes conscious and distressing; it therefore ceases. But the conscious mechanism of expectation is that the foot is useless, so that in a great many cases the spasm is replaced by apparent flaccidity of the inverter muscles; the point of interest being that the invertors are not the only muscles affected by this flaccidity; the evertors and frequently the dorsal and plantar flexors being also apparently functionless. It is very difficult indeed in such cases to ignore a conscious and purposive mechanism. It might be argued that in an hysterical person the existence of a painful and distressing region of the body is liable to be associated with an hysterical dissociation of that part in accordance with the principles of secondary hysteria; but in such cases we ought to have not only uselessness of the foot

and ankle, but also anæsthesia of the sock or stocking variety, and this in my experience does not occur.*

Conscious secondary hysteria is to be suspected when the disappearance of the sensory defect is not associated with disappearance of the motor disability. This combination of symptoms implies that the limb is not dissociated as a limb from consciousness; whereas the motor defect owes its existence to such a dissociation. Theoretically the disappearance of the paralysis with persistence of the anæsthesia should have the same significance, but I have not noticed this association in practice.

The above division of hysterical symptoms into three groups is of interest from the standpoint of their genesis, but it is of importance to realize that as regards diagnosis and treatment such grouping is of subsidiary importance. With the possible exception of two of the secondary manifestations, there is no specificity of symptoms as regards these groups. An hysterical convulsive attack is characteristically primary, but it may also be met with as a tertiary condition from the beginning. Hysterical vomiting, which in the majority of cases is a pure tertiary symptom, in something like 20 per cent of the cases conforms to the primary variety. Hysterical anorexia, hysterical anosmia, blindness, and deafness, are types of secondary hysteria, but they may also form part of the primary and tertiary varieties. And apart from their type at inception, the tendency is for all hysterical manifestations to become tertiary in the course of time.

The conditions which, when present, are more or less exclusively secondary, are the concomitant paralyses and anæsthesiæ of parts of the body in the sphere of an ideational non-existence of such parts. Paralyses are met with often enough as primary and tertiary manifestations, but they then lack the characteristic association of anæsthesia with utter flaccidity of the part affected; sensory symptoms in such cases are frequently absent, and the part is 'held' useless; there is not the completeness which is shown by the true secondary dissociation. But even these particular secondary conditions are liable to be mixed with a tertiary element as the case progresses.

Nevertheless, the secondary manifestations do certainly appear to be more of a psychical 'entity' than those of the other two groups, and from the clinical standpoint hysterical conditions might be divided

* The greatest care has to be taken in examining such cases for the existence of anæsthesia; direct questions are to be avoided, and the behaviour of the patient noticed when an apparently accidental skin stimulus is made. Needless to say, the question "Can you feel this?"—in that it carries with it the implication of inability to feel—ought never to be asked.

into two groups: those which arise in an atmosphere of pure dissociation; and those in which a dissociation is accompanied with individual associations; 'pure' and 'suggestion' hysterias respectively. Tertiary hysteria, in this scheme, would be placed as a mitigated variety of the primary group.

HYPNOSIS AND SLEEP IN RELATION TO HYSTERIA.

An examination into the processes of hysteria has led to the conception that, so far from being exclusively human attributes, they are manifestations in man of psychical processes that occur normally in the non-human animals, and which, in the average man, are held in subjection as one of the results of his early training and education. At the same time these processes, or their potentiality, should be looked upon as lying latent—as far as clinical hysteria is concerned—in all mankind who are not obtrusively hysterical. In this connexion certain phenomena are of interest; they are not hysterical, but they are allied to hysteria in that the same mechanism is at the base of each; and they are manifest in all mankind. The phenomena in question are hypnosis and certain of the psychical states associated with sleep.

Hypnosis.—It is not proposed to enter into any detailed description of this condition, but merely to point out its bearing on hysteria and its relation to that disorder. It may be considered from the standpoints of induction, establishment, and after-effects.

Induction.—The essential requirement for the induction of hypnosis is concentration of attention, and the only types of mankind that cannot be hypnotized are those who, for some cause, are unable so to concentrate. The more the concentration of attention is in the direction of a desire for, or an expectation of, hypnosis, the more readily is the hypnotic state attained, and an important element in the production of hypnosis is this element of expectation.

In association with this conscious concentration of attention in an atmosphere of expectation of hypnosis, the average person voluntarily foregoes his powers of criticism, and of course, in persons in whom the critical faculty is by upbringing impaired, such a condition is all the more readily attained. Hostility to the induction of hypnosis is associated with a diffusion of consciousness through associations subserving criticism, and the more extensive these may be, the greater is the difficulty of bringing such a person into the hypnotic state. Given that the critical powers are low, as in declared hysteria, then hypnosis is induced in the absence of any conscious desire, the mechanism by which expectation is completed by suggestion being, so to speak, ready to hand.

It is of interest to discuss the relationship between this conscious concentration of attention in the atmosphere of a desire to be hypnotized and the expectation of hypnosis. It may be summarized as follows: Expectation of hypnosis may exist in the absence of any conscious desire, whereas conscious desire for hypnosis implies a certain element of expectation that hypnosis will be induced. Given, of course, that an individual has once been hypnotized, then the expectant element is reinforced, and this reinforcement is progressive with each subsequent hypnosis, until in the course of time the element of desire and conscious co-operation need be present but to a very slight degree; there is, so to speak, a 'habit of hypnosis' developed under certain circumstances.

The relationship of attention and emotional tone has already been discussed; the one is an essential concomitant of the other. The emotional tone operative in the production of hypnosis is to be sought for in the atmosphere of this 'desire to be hypnotized', and in many cases at least it would appear to partake of the nature of curiosity. In the obtrusively hysterical person there is an 'abnormal' intensity of the expectant element which diminishes the essential necessity of the emotional tone; the conditions for concentration of attention in such people being completed by their inherent obedience to authority.

The mental state which of all others militates against the induction of hypnosis is one of confusion, for confusional states effectively negate concentration of attention as well as coherent expectation. Normal men are all hypnotizable, given that they have the power of concentrating their attention and the will to do so; given that they are normal, in other words, and are not specifically hostile. Even in the event of there being hostility, the physician who is able to hold the attention and who possesses sufficient personality will, in the majority of cases, be successful in bringing about hypnosis.

The result obtained in the atmosphere of voluntary or semi-voluntary concentration of attention is a limitation of the field of consciousness, and concomitant reduction of the element of criticism; as mentioned above, in the event of there being an individual disposition towards such limitation of consciousness and reduction of the critical powers, the hypnotic state is proportionately all the more readily induced. The difference, however, between such individuals and others is relative and not absolute.

Establishment.—The condition of a patient in the hypnotic state varies with the depth of hypnosis; there is a loss of the powers of criticism in proportion to the profundity of the hypnosis. There is a corresponding diminution of the field of consciousness, and, given

that he be left entirely to himself, the state passes into one of sleep. Statements made to him are accepted, and his behaviour may be modified from moment to moment in accordance with such statements, provided the hypnotic state is deep. At the same time it must be remembered that the reception of outside statements is relative, and varies directly with the depth of the hypnotic state. In the event of a statement being made that is in direct variance with fact—as in the case of his being told that an object present in the room is non-existent—the behaviour to that object is rather one of avoidance than unconsciousness of its presence; similarly, statements which are made in opposition to a well-marked habit of the patient in conscious life are received with difficulty.

Left to himself the patient is passive, and, as mentioned above, passes into sleep. If the hypnotic state is light, and events in the life of the patient that were at the time accompanied by an intense emotional tone be touched upon, there is a liability for him to re-experience such events, with the behaviour appropriate to the associated emotional tone originally experienced.* In such cases there is a separation of the patient psychically from the existing environment into one that was associated with an intense emotional tone at a preceding phase of his life. The emotional tone at work in such cases is of the centrifugal order.

We may say, then, that a patient in the hypnotic state manifests a limitation of the field of consciousness mainly in the direction of an abeyance of the critical faculties in so far as these concern the environment existing at the time. In profound hypnosis these faculties may be suppressed to a greater or less extent for events that have been established in the environment of determination, but such suppression is rarely complete, and the behaviour even during the period of hypnosis towards outside statements directed to this end is generally characterized by avoidance rather than unconsciousness, by resistance rather than complete acceptance.

After-effects.—Some of the most interesting phenomena of hypnosis are to be seen after the patient has returned to the normal state; they may be classed as those that are essential and those that are incidental.

Of the essential after-effects, the most important is amnesia for events that have occurred during the phase of establishment, and in my opinion this amnesia is invariably present, given that true hypnosis has been induced. Conversely, if the patient is able to remember anything of such occurrences on his return to the normal, then the hypnotic state, in the proper sense of the word, has not been

*William Brown, *Lancet*, 1919.

indeed. In the investigation of such memories, care is to be taken against the confusion of post-hypnotic mental processes (that is, mental processes directly associated with external suggestion during the period of establishment and becoming manifest subsequently) with intrinsic individual memory; here again, the caution must be emphasized against assuming conscious memory from behaviour. As far as the patient's consciousness is concerned, the induction of hypnosis is followed by complete amnesia for the period of the phase of establishment. A second essential associate of the hypnotic state is that its induction on one occasion renders subsequent induction by the same agent all the more easy. This aspect has already been discussed above.

The incidental after-effects have as their basis statements which were made to the patient by the hypnotizer during the phase of establishment; such statements being directed towards the modification of the patient's behaviour after his return to consciousness. It has been abundantly established that the patient after hypnosis acts in conformity with the statements made during the period of establishment, provided, that is, the hypnotic state has been sufficiently profound. Among the most interesting of the post-hypnotic phenomena are manifestations which are made to occur at a stated interval of time after the patient has returned to the normal; during the hypnotic phase he is told that he will feel a tingling sensation in his hand *x* seconds after a given occurrence; the sensation is experienced at the stated time, although, of course, no conscious memory of the direction is existent. Under certain circumstances pain may be abolished in the same way; with greater difficulty, long-standing and deleterious habits may be antagonized. An instructive phenomenon, and one which has a bearing on the subject of hysteria, is the ability to bring about, as post-hypnotic manifestations, specific behaviour if and when certain situations arise subsequently. The suggestion is made during the hypnotic phase that whenever a certain stated sound is heard, certain stated body movements shall be made; the movements in question occur when the specific setting arises, equally apart from conscious premeditation on the part of the patient.

If now these various points be considered in the light of what has already been said in the discussion of hysterical behaviour, we find an interesting and instructive parallelism between the two—hypnosis and hysteria—both as regards occurrence and after-effects. The essential element of hysteria—limitation of the field of consciousness—is present necessarily in hypnosis, the difference between the two being that, whereas in the latter the limitation is associated to a greater or less extent with volition, in the former it is involuntary.

In both we have essential after-effects: in hysteria, however, those which have been described as incidental in hypnosis are the rule. Repetition of the two states is fundamentally concerned with the same mechanism, expectation.

The association between the two states is best seen by comparing hypnosis with hysteria of the primary order. The concentration of attention brought about in the former consciously is determined in the latter apart from volition, in the atmosphere of an uncontrolled emotional tone of the centrifugal order. There is an analogous strangeness of behaviour and dazedness during the phase of establishment, and a strictly analogous amnesia afterwards. But whereas in hypnosis subsequent exotic behaviour may or may not be present in accordance with the presence or absence of specific external suggestion during the period of establishment, in hysteria such behaviour is always present, and we must consider the associations formed at this time in the atmosphere of the central responsible incident as the basis of such behaviour, and the central responsible incident itself as the source of a comparable external specific suggestion, in that it is itself responsible for the operative uncontrolled emotional tone. In other words, in hysteria the operative uncontrolled emotional tone is the hypnotizing agent, and subsequent reversion to the hysterical phase of establishment is all the more readily brought about by the tone in question. In this way primary hysterical manifestations in the stage of maintenance are of the nature of post-hypnotic suggestion effects, and they are all the more deeply ingrained in the patient's psychology through the occurrence of the primary specific incident taking place early in his life, when there are no contrary associations to be countered.

The phenomena of hypnosis are to be recognized in the manifestations of hysteria, and the mechanism at work in hysteria may be considered as an exaggeration of those operative in hypnosis. This may be summed up by saying that man, in virtue of his evolution, is hysterical and hypnotizable; the more hysterical he be, the more easily is he hypnotized; and that, while the more obtrusively hysterical he is, the more readily is he hypnotized, hypnotism is possible in subjects other than the obtrusively hysterical. In other words, the same factors are at work in the two conditions, but with different degrees of intensity.

Sleep.—It has been argued above that the factors at work in hysteria as encountered clinically are to be recognized in the psychology of the non-human animal normally—that is, naturally; we may expect, then, that hypnosis is also to be found among such animals in nature. In this connexion the observations and

conclusions of Boris Sidis on the nature of sleep are instructive ; as a result of observations and experiments carried out at the Harvard Medical School on different animals, varying from the frog to man, he comes to the conclusion that " the hypnoidal state is the primordial sleep-state ",* and that human sleep has arisen out of this hypnoidal condition in the course of evolution. In man he considers the hypnoidal element of sleep to have become rudimentary ; to persist as a brief transitory phase between the alternation of waking and sleep.

The relation between emotionalism and dreaming will be discussed later, but it may be emphasized here that this conception of Sidis gives support to the idea that hysteria is not an exotic condition specifically manifested by man, but that it is in reality a manifestation of a fundamental psychological principle or series of processes naturally displayed in all animals, and that specific human behaviour has arisen out of these processes in the course of evolution. In mankind, as we have already mentioned, degrees of hysteria, and the ease with which a patient can be hypnotized, vary directly with each other ; we should therefore expect to find that in the non-human animals, in which the principles of hysteria are of everyday occurrence, the hypnotic state should also be of frequent occurrence. As a matter of fact among such animals it is probable that we find, not so much hysterical behaviour and hypnosis, as an hysterical state of which hypnosis is an integral factor. Among human beings, as we have seen, conscious co-operation in the production of the hypnotic state is the rule, and in this respect hypnosis in man differs from human hysteria. But among the lower animals I do not think we can postulate a deliberate conscious expectation of sleep, and in so far as such co-operation is absent in them, just so far does non-human 'hypnosis' approach hysteria, in the broadest sense of the word.

As a matter of interest the question may be asked : At what stage in the scale of evolution does hysterical behaviour cease to be normal ? The answer must be that there is no definite limiting line, but that when we have the elements of emotional control appearing in an animal and in his relations with his fellows, then we have what may be called the 'transition period'. It is not improbable that this 'transition period' is to be first seen in the lower races of mankind itself.

SUMMARY.

1. Primary hysteria is met with in two phases, that of inception and that of establishment. In the former, certain of the manifestations are conformable to the idea that the condition is strictly

* " An Experimental Study of Sleep ", *Journal of Abnormal Psychology*, 1908.

analogous to hypnosis, the specific manifestations being of the nature of post-hypnotic phenomena in association with the specific primary incident of the environment of determination. The maintenance of symptoms of the phase of establishment is progressively associated with the mechanism of expectation.

2. Secondary hysteria is peculiar in that the operative emotional tone is not obvious, but is intimately associated with pain; the symptomatology being a direct response to the perception of pain. Secondary hysteria is maintained for the most part in association with the centripetal orientation of the ego; to a less extent than in the primary variety it also is maintained by expectation.

3. Tertiary hysteria in its inception is essentially a defence mechanism, and its manifestations are somatic responses in the psychical sphere of an expected injury to a particular part of the body. Such responses are commonly to be seen in the foot and hand as inverter and flexor spasm respectively; hysterical vomiting in the majority of cases belongs to this group. Once established, tertiary symptoms are subsequently maintained by expectation as in the case of primary hysteria.

4. In the course of time the element of expectation in the maintenance of the three varieties of hysteria is liable to be associated with a conscious element, and in the absence of treatment all hysterical manifestations tend to become purely conscious in the sphere of centripetal orientation of the ego.

5. With the exception of certain of the manifestations of secondary hysteria, no symptom in itself can be taken as specific of any one of the three groups.

6. The phenomena of hypnosis in man are closely related to those of hysteria, in that both are dependent on the same mechanism, psychical dissociation, and the degree of hysteria and the susceptibility to hypnosis are directly proportional. The chief difference between the two lies in the fact that in hypnosis conscious co-operation and a desire for hypnosis are necessary, whereas in hysteria they are not. It is probable that this difference is in reality one of degree only.

7. Human sleep arises out of the hypnotic sleep of non-human animals, just as human conduct has arisen out of the hysterical behaviour of the lower animals. In unsuitable environments the mental processes peculiar to man do not undergo their proper development, and behaviour is proportionately hysterical.

8. In every human being, as constituted at present, on careful examination traces of non-human ancestry are to be found in his psychical processes. Such traces take the form of conduct which is called hysterical.

CHAPTER VII.

HYPERTHYMIA.

IN discussing secondary hysteria, it was pointed out that the characteristic dissociation of regions of the body from consciousness is not a necessary associate of pain in hysterical people; as a rule more than mere pain is required to bring about this effect. In so far as there is no such dissociation, hysterical people react to pain in a manner that is not normal; in that there is no specific dissociation in the atmosphere of the pain felt, the manner is equally not hysterical in the true sense of the word. It has been already indicated that there is a group of people who, from the psychological standpoint, occupy a position midway between the obtrusively hysterical on the one hand and the apparently normal on the other, and the name 'hyperthymia' was given to this class. Hysterical individuals react to pain in a hyperthymic manner, provided there is no specific hysterical dissociation. Hyperthymic people are to be taken as individuals whose emotional control is never normal, and in whom there is a degree of uncontrol just short of the intensity necessary for the association with it of obtrusive hysterical symptoms; given that hysterical people are conscious of pain in the absence of psychical dissociation, then, as far as that pain is concerned, their behaviour is hyperthymic. Broadly speaking, hyperthymia may be looked upon as a solution from which hysterical symptoms precipitate; all hysterical people are hyperthymic in the absence of obtrusive hysterical symptoms, but all hyperthymic people are not obtrusively hysterical.

In what manner do hyperthymic people react to pain? In that the condition is essentially one in which emotional control is defective, though not to the same point as in hysteria, the characteristic reaction is one of abnormal emotionalism; such people are said to feel pain intensely, to bear pain badly, and so forth; conditions which are not particularly painful to the normal person are acutely distressing to them. In the more intense degrees of hyperthymia we have a foreshadowing of the centripetal orientation that reaches its maximum in obtrusive hysteria, and in such people it is a desideratum that their friends should be made to realize the intensity

of the pain from which they suffer; their activities are largely devoted to this end. Of course, in obtrusively hysterical people in whom there has been no dissociation in the sphere of the pain experienced, this behaviour is all the more dramatic.

Causalgia.—These remarks have a bearing upon the discussion of a rather vexed problem in neurology, the problem of causalgia. For some years now it has been recognized that certain injuries of peripheral nerves are liable to be associated in some people with a degree of discomfort that is not in accordance with what generally occurs in similar injuries among the majority of people. The pain is excessive, and does not exclusively depend on the nature of the nerve lesion; quite slight injuries in some cases being associated with what is apparently atrocious pain. The pain in these people has no certain reaction to any particular remedy; in one case the patient spends all his time in douching the painful area with cold water, and shrieks when warm applications are used; in another the reverse obtains. There is a certain amount of indefiniteness in the description of the pain, which is usually represented as burning or scalding, and there is very characteristic vagueness in the patients' localization of the discomfort. In the majority of nerve pains the abnormal sensations are capable of accurate localization; and in such a condition as alcoholic neuritis, where the sensory symptoms are maximal, in the absence of any handling of the limbs the pain is not intense. The name 'causalgia' has been given to the condition in question, and no very definite anatomical basis has as yet been ascribed to it. In some cases intraneural fibrosis has been demonstrated at the site of the lesion (Stopford); but other cases with similar fibrosis do not manifest causalgic symptoms. In other words, lesions have been described in some cases that are conspicuous by their absence in others equally typical; and, in my opinion, the determinants of the pain in these cases are not to be looked for so much at the site of the lesion of the peripheral nerve as in the patients' psychology. It is not so much a peripheral lesion that is 'responsible' for the pain, as the scheme 'central mechanism—peripheral lesion', using the expression 'central mechanism' in the sense of psychical receptor- and effector-mechanism.

In any discussion on pain, the psychical aspect of the phenomenon cannot be too strongly emphasized; it is nevertheless an aspect that is all too frequently left out of account, and undue value is given to the peripheral determinant. The overwhelming importance of the psychical side, used in the general acceptance of the term, is exemplified every day and every time an anæsthetic is administered for the purpose of performing an operation. Undoubtedly the

peripheral lesion plays its part, but it is not a predominating part; the phenomena of hysteria go to show that acute pain may be experienced with a peripheral abnormality of minimal severity, whereas in the absence of psychical activity no such experience is possible. In that the outward and visible signs of pain are intimately associated with an emotional tone, we see how variations in the emotionalism of any patient must inevitably react upon such behaviour, and in the event of there being a degree of emotional control that is less than normal, there will be abnormal behaviour to the peripheral lesion present.

As mentioned above, such behaviour cannot in itself be considered hysterical; in so far as it is in any way the reaction towards an organic lesion, just so far is it not hysterical. When it occurs it must be looked upon as hyperthymic, whether occurring in an hysterical person or not. In the particular condition called *causalgia*, a reasonable explanation would appear to be that we are dealing with an excessive emotional reaction to a peripheral lesion of a nerve; and it is of no special determining value whether this lesion is severe or otherwise. In the event of the patient being hysterical or close to the border line, a very trivial lesion may be associated with an intense emotional reaction; given that he is nearer to the normal, we may have an important peripheral lesion with few, if any, of the abnormal psychical symptoms. The 'trophic' changes in *causalgia* are to be ascribed to the two factors: immobility of the affected part, with absence of the normal massaging action of the muscles on the skin; and, possibly, a direct interference with the innervation of the skin and skin structures owing to the peripheral nerve injury.

The above remarks apply to a host of conditions that are met with every day in ordinary medical and surgical practice; conditions in which, to speak broadly, a patient in the atmosphere of some abnormality—cardiac, gastric, traumatic, and so forth—complains of more pain than his medical attendant thinks justified by the severity of the physical abnormality, and the condition is labelled a 'neurosis', or perhaps a 'reflex neurosis'. In such cases we are dealing with hyperthymic subjects, subjects whose emotional control is less than normal, but whose behaviour, in so far as the specific atmosphere is concerned, is not related to any psychical dissociation and is not hysterical (although, as mentioned above, the subject may be hysterical).

Such hyperthymia may be natural to the patient as an outcome of his environment of determination; but it is important to realize that it may also be acquired as the outcome of enfeebling disease. The patient who has gone through life normally and has shown

himself the possessor of normal emotional control, in the event of his being subjected to a severe septic infection of his arm necessitating frequent incisions and associated with a prolonged period of discharge, may in the course of time experience 'functional' pains or neuralgia of a mnemoneurotic type in the arm, he is liable to react to such pains abnormally; his emotional control for the time having deteriorated under the stress of his illness. Enteric fever is another type of disease which is liable to have the same effect.

SUMMARY.

To sum up, we may say that in the presence of organic defect an abnormal psychical reaction to pain occurs in hyperthymic people; such hyperthymia may be extreme to the point of hysteria, yet the specific behaviour in the presence of such an organic defect is not to be looked upon as hysterical in itself.

Hyperthymia may also be induced for a time in the atmosphere of prolonged and enfeebling illnesses.

The 'reflex neuroses' belong to this class; the condition known as causalgia is also a member.

CHAPTER VIII.

PSYCHICAL DISSOCIATION.

IN the preliminary discussion on the centrifugal and centripetal emotional tones, it was said that the former were accompanied with a forgetfulness of the responsible central incident. The question as to how far this forgetfulness was associated with a non-registration of the actual incident was there stated to be of subordinate importance, and from the point of view of concrete behaviour this is true. But from the standpoint of clinical medicine, and especially of that branch which deals with the functional nervous disorders, the problem is one which possesses very considerable importance; as we shall see, certain methods of treatment of these conditions depend on the reality of a registration of the incident under these circumstances, and the development of subsequent or coincident amnesia.

If now we consider instinctive activity in its simplest form, we find, as pointed out by McDougall, three aspects for discussion: the perceptive, the affective, and the conative. Somewhere 'between'* the perception-receptor and the conation-inceptor mechanisms we have the metamorphosis of the perception into an emotional tone—or rather, somewhere and somehow, on its reception, perception is associated with an emotional tone and this tone is associated with appropriate conation. In this connection two possibilities present themselves for consideration; the energy associated with the emotion may be transferred *en bloc* as far as its operative value is concerned to the conation-inceptor apparatus, or it may not be so transferred; it may be non-diffused or diffused. As an anatomical associate of the perception-emotion-conation activity, we can, I think, postulate a connecting or association path. The fewer such paths concerned, the less the likelihood of diffusion of energy between perception and inception, the more inevitable and immediate the associated conative activity. On the other hand, the greater the number of interpolated paths, the greater the potentiality of diffusion among them, the less inevitable and the more deliberate the behaviour. The two conditions

* It is impossible in a discussion of this nature to avoid expressions implying time and space, and speaking of the three aspects as though they are links in a finite chain. Philosophically such implications are open to criticism, but for convenience of description they may perhaps be suffered.

may be compared to the passage of an electrical disturbance through a lightning-conductor of the old pattern and through one of the new, in which the building is surrounded with an intricate meshwork of conducting material; in the one case we have a fulminating or massive transference *en bloc*, in the other a more widespread diffusion with attenuation of the energy. We may say, then, that the fewer the associational paths available for the organism in the atmosphere of inception of an emotional tone, the more immediate and inevitable the associated somatic response.

The development of the human organism has been specifically associated from the anatomical standpoint with an increase in the anatomical associational dispositions available: psychically, the associate (or one of the associates) is conscious memory. It cannot be said that in man memory is 'caused' by the increased associational dispositions, but it can be considered that the environment out of which the human organism has developed is associated with increased anatomical association-dispositions, increased potentiality of diffusion of emotional tones through these dispositions, and conscious memory. In so far as conscious memory is an integral associate of increased association-dispositions and increased potentiality of emotional-tone diffusion through them, we may say that the fewer the associational dispositions available, the less the potentiality of memory.

In addition to the above associates of human evolution, we have the factor of emotional control: such control does not bring about diffusion, neither does diffusion cause control: the two are equivalent associates, and are associates of the other factors mentioned—increased number of dispositions, and conscious memory. In that we have a defect of emotional control, we have a proportionate defect in memory, and the defect is in the direction of non-registration of incidents*, and not in the formation of an amnesia for them when registered. In other words, the psychical dissociation that is an inherent associate of emotional uncontrol would appear in reality to be a psychical non-registration.

The question now arises: How often in man does complete non-registration of an incident encountered in the environment ever occur? From the standpoint of pure psychology the answer must be: Never; man, in so far as he is man, will always activate some associational dispositions other than those which subserve the appropriate somatic response, the associational dispositions available in man being so numerous and so complex. Relatively, however, the registration may be very incomplete indeed, and entirely inefficient from the point of view of its subsequent recall in consciousness;

* Registration of an incident implies the possibility of its recall in conscious or pictorial memory.

as far as clinical medicine is concerned, there is no possibility of recovering in consciousness an incident which, in the environment of determination, was associated with a centrifugal emotional tone of sufficient intensity and the necessary lack of emotional control to be accompanied by psychical dissociation.

People who are defective as regards their associational dispositions, from birth or from some acquired condition, will tend to show behaviour associated with non-diffusion of emotional tones; such behaviour is of the hysterical type, but of course such patients cannot be classified as suffering from hysteria. Hysteria is only to be established when the associational dispositions available are normal, or apparently normal, in number and extent; the non-diffusion operative being the associate not of concrete anatomical defect, but of deficient emotional control. Again, emotional control that has been properly developed in the environment of determination, and lost in that of adjustment, cannot be associated with hysteria, because the coincident non-diffusion of emotional tones in the former environment has not occurred; the associational dispositions available have been properly activated; there is no non-registration of incidents in such patients. But any accident or disease in the environment of adjustment which destroys a sufficient number of these dispositions will be associated with behaviour of the hysterical order, or may be so associated; here again, of course, the condition is not hysteria, but secondary dementia.

As a corollary of the above remarks, the registration of an incident and the subsequent development of amnesia for it is never associated with hysterical behaviour, and the demonstration of the dependence of abnormal behaviour on a properly registered incident is a demonstration of the non-hysterical nature of the behaviour in question. It must constantly be borne in mind that the apparent conformity of behaviour to incidents recalled by hysterical patients is in no way an indication that such behaviour has been determined by such incidents; also, the disappearance for a time of abnormal behaviour when these incidents have been 'discovered' and 'explained' to the patient does not show any such determination. The disappearance in these cases is to be associated with the amenability of the hysterical person to the operations of the herd-instinct and its element herd-suggestion and herd-authority.*

* It must be remembered that the above remarks apply to behaviour that is hysterical, and not to that which arises through relative inattention and which is manifested as the obsessive form of the mnemoneurosis. In these cases there is no dissociation operative; there has been complete registration of the responsible incident in the environment of determination, and the amnesia for it in that of adjustment is associated with the superimposition of centrifugally activated dispositions at or about the time of the registration.

DISSOCIATION IN PRIMARY HYSTERIA.

In the light of the above remarks it may be useful to review briefly the three types of hysterical behaviour already described: the primary, secondary, and tertiary varieties. In the essential or primary form we have an environment of determination and certain primary specific incidents therein which are accompanied by the lightning-like passage of the emotional disturbance from the perceptive to the conative side: appropriate conative or somatic responses are perpetuated or 'set' in accordance with its intensity: equally in accordance with its intensity (non-diffusion) there is coincident non-activation of associational dispositions other than the somatic. There is no registration of the incident in such an atmosphere and no possibility of its subsequent recall into consciousness; empirically it is said to be psychically dissociated. The somatic associational dispositions perpetuated are inevitably activated in the event of the patient re-encountering the emotional tone operative in requisite intensity: or rather, given that we have again a corresponding non-diffusion, we have the same lightning-like passage of the disturbance, the abeyance of consciousness at the time, and the specific behaviour; consciousness, intensity of emotional control, and the number of associational dispositions in activation at the time, varying directly. From the above remarks it would appear to follow that an emotional-tone concentration which is associated with a non-diffusion through associational dispositions other than those which subserve somatic response does nevertheless diffuse through these somatic-response associational dispositions; this inference is justified, and one of the elements of this differential behaviour is in all probability the more ancient establishment of the dispositions which subserve somatic response as compared with those that do not. The somatic associational dispositions are phylogenetically old; they are common to all living organisms in their essence; whereas the non-somatic are of quite recent development from the evolutionary standpoint. To continue with the physical analogy, we might consider the association of this ancient establishment to be in the direction of a reduction of the resistance, among such dispositions, offered to the diffusion of the emotional disturbance through them. And as an extension of this speculation it would be justifiable to postulate the occurrence, or possible occurrence, of behaviour in an atmosphere of emotional uncontrol so intense that diffusion even through these relatively non-resistant dispositions of the associated emotional disturbance is incomplete; we would expect in such circumstances to find a more profound limitation of the field of consciousness and a more complete stereotypism of somatic behaviour; further, such

behaviour would be common to all mankind in accordance with the ancientness in evolution of the dispositions available for activation. Needless to say, some such dispositions must be so available, and their availability may be considered as being proportionate to their primitiveness; in accordance with their primitiveness, the associated behaviour may descend to the manifestation of muscular excitability alone.

The condition indicated in the above description is, of course, epilepsy, and in view of the above remarks epilepsy may be looked upon as an extreme manifestation of a condition which is in its essence hysterical; the difference between hysteria properly so-called and epilepsy being quantitative and not qualitative. The quantitative difference, however, is so great as to justify the separation of the two conditions clinically: true epilepsy and true hysteria. Experience would appear to indicate the factor of congenital determination as the differentiating element; being usually, in all probability always, operative in the former. This is what should be expected with so profound an abnormality of the emotional behaviour as postulated in the case of epilepsy, and is in accord with the dementia that so commonly supervenes upon its course. It may be, however, that certain forms of epilepsy, which do not show these mental changes to the same degree and which are amenable to treatment, approach the hysterias; but from the clinical point of view the diagnosis of the one condition ought to preclude the other.

It may be said, then, that in accordance with their evolutionary newness, associational dispositions are relatively resistant to the diffusion among them of an emotional-tone disturbance, and vice versa; those associated with somatic response being of low resistance. Those which subserve elementary muscle response, as apart from organized behaviour, are of least resistance. In the ordinary forms of hysteria, properly so-called, the non-availability of certain dispositions is relatively slight and is confined to those which are of recent acquisition and which are associated with conceptual activity; associational dispositions of older standing, subserving organized somatic behaviour, remain available. In true epilepsy this is not the case; only those associational dispositions are available for activation which are concerned with muscle response apart from organized behaviour; in such conditions we are almost certainly dealing with a congenital defect. In accordance with the interdependence of the elements—consciousness, number of associational dispositions in activation at the time, emotional-control intensity, emotional-tone disturbance diffusion—in the hysterias we have an impairment of consciousness that is relatively slight as compared with that in epilepsy; which does not amount to more than 'dazedness' in the majority of cases.

DISSOCIATION IN SECONDARY HYSTERIA.

In the case of secondary and tertiary hysterias the operative factors, though in their essence the same, show a variation from their behaviour as manifested in the primary group as regards mutual interdependence. In the primary hysterias, the emotional tone operative in the environment of adjustment in re-invoking somatic behaviour perpetuated in that of determination, is the same, in kind and intensity, as that which was operative in that environment, which was associated not only with the perpetuation in question but also in the centripetalization of the ego. In secondary and tertiary hysterias we do not characteristically find as a necessity this conformity: in accordance with the centripetal orientation of the ego which has already been determined, an emotional tone, of the same kind certainly, but of less intensity, is an efficient associate. The intensity needful varies inversely with the centripetal orientation of the ego: with the extent to which, in the environment of determination, psychical non-registration of incidents in centrifugal emotional-tone atmospheres has occurred. To summarize, we may say that in the environment of adjustment primary hysterical manifestations are specific as far as the environment of determination is concerned, the secondary manifestations being not so specific, but dependent on the formation of a centripetal ego out of the atmosphere which conduces to such specificity in the adjusted environment. The case of the tertiary variety conforms more to the secondary variety as regards the necessary intensity of the operative emotional tone in the environment of adjustment, and to the primary in that certain specific incidents in the environment of determination do sometimes play a part.

In secondary hysteria we have a centripetal determination of the ego, and its associate, a tendency to the non-diffusion of emotional tones of the centrifugal order; in accordance with the centripetality of the ego, the intensity of the emotional tone to be operative in bringing about symptoms is proportionally small, decreasing with the increasing centripetal orientation. If we take as an example the case of a secondary paralysis as already described, it may be considered as the outcome of the following associates: primary somatic associational dispositions centripetally activated in the early environment of determination; a centripetally orientated ego—implying non-diffusion of centrifugal emotional tones; a limb which is painful, but which is not thereby effective in the formation of an immediate environment in conformity with the egocentricity. Out of the atmosphere associated with these factors the secondary hysterical manifestation arises, and it persists just as long as the immediate

environment induced fulfils the demands of the centripetally orientated ego. The relative intensities of the egocentricity and of the emotional tone necessary vary inversely.

Two aspects of such a case present themselves for consideration : the non-registration of an incident, and the associated behaviour. As far as the former is concerned, we must take as the initial incident operative a certain intensity of pain and a certain uncongeniality of environment ; the non-registration (psychical dissociation) is in the direction of a non-activation of certain anatomical association-dispositions from that time onwards. The emotional tone associated with certain specific incidents (in the case of a secondary hysterical anaesthesia, various cutaneous, muscle, and joint stimuli) does not undergo the proper degree of diffusion through available anatomical associational dispositions ; it is transferred *en bloc* in accordance with the principles already discussed and is associated with a certain mode of behaviour recognized as hysterical. It is not that dispositions already activated undergo concrete dissociation and are split away from consciousness ; it is that for the time being no further dispositions in the sphere of the particular limb are activated at all ; in other words, the psychical growth of that limb ceases for a time. The memory of the limb as a limb persists, but consciousness of the limb in relation to the physical surroundings ceases in association with the cessation of the associational-disposition-activation during the phase of the disability. This postulates as an essential associate of psychical sensation the progressive activation of anatomical association-dispositions,* and the phenomena of continuity of consciousness, coma, and so forth, would appear to justify this view. The condition, as far as the anatomical association-dispositions are concerned, resembles a 'drawn-out' primary manifestation, the operative emotional-tone intensity differing from that at work in the primary manifestations in that it is attenuated in proportion to the intensity of the egocentricity. Egocentricity being one of the end-results of the hysterical environment of determination, it follows that secondary hysterical manifestations are of comparatively late development as regards their determination.

The hysterical amnesia already referred to is of interest in connection with the secondary hysterias. The progressive amnesia, that is, the forgetfulness for events occurring at the time of and after the initial incident, is easily to be understood ; there is a non-registration of current events in the patient's consciousness relative to his individuality strictly analogous to the non-registration of physical stimuli

* It does not necessarily postulate the progressive activation of anatomical associational dispositions other than those already activated, though it may do so.

in the case of a secondary hysterical anæsthesia; the retrograde amnesia, however, would appear to present a difficulty in this connexion, for it concerns incidents occurring before the inception of the disability and which certainly have been registered. The explanation lies in the fact that it is an amnesia for past events when presented to the individual as current events; it is not that there is no idea of 'father' or 'mother', but that the presentation of these concepts—the rendering of them current events—brings about no registration at the time, and, therefore, no recognition. The extent to which retrograde amnesia occurs in association with progressive amnesia depends upon the completeness of the ego-isolation; past experiences which were registered at the time, but which did not actively support the patient's egocentricity, being particularly liable to be subjected to such amnesia. It is thus that we so often find with the progressive amnesia a forgetfulness extending to the immediate environment in which the disability arose; the soldier forgetting his drill and other details of his military life; the office-girl forgetting her shorthand and typewriting powers; both being sufficiently skilled in their duties up to the occurrence of their amnesia. In so far as the parents are, as a rule, very closely associated with the individual's ideas of his own ego, they are least likely to be subjected to amnesia; when they are it argues a high degree of hysteria, and the amnesia is generally of short duration as far as they are concerned. What usually occurs is that the patient is unable to recall their names and appearance, but recognizes them quickly enough when they actually appear on the scene. In the event, however, of the parents having proved hostile to the patient's conception of his own individuality, then there may be a more profound degree of amnesia for them.

It is probable that the true secondary hysterical amnesia, retrograde and progressive, is of short duration, and that it very readily passes into the tertiary or expectant variety. Retrograde amnesia always presents the possibility of complete recovery, the incidents forgotten having been registered at one time. Progressive amnesia, however, does not present this possibility, for it is concerned with events that are not registered at the time of their occurrence, and such apparent recovery as does take place is purely by education in the phase of improvement. In this connexion it is important to mention the position of those events which occurred immediately before the onset of the disability, and which in reality formed part of the environment associated with the occurrence of the amnesia. These events are recoverable theoretically, but with great difficulty in practice; the actual occurrence which directly preceded the disability, not being registered, is irrecoverable. This actual event is as a rule of the nature of the 'work' upon which the patient was

engaged—drill, typing, and so forth—and its loss is liable to be associated with a loss for the preceding occurrences by the process of expectation. With the exception of the actual invaliding occurrence, the residual retrograde amnesia must be looked upon as expectant, and of the tertiary type, as soon as the progressive amnesia disappears.

As regards the second aspect of the secondary hysterical manifestation, that of the associated behaviour, it is necessary to remember just what is implied by 'behaviour' as far as the relief afforded by it of an emotional tone is concerned. Muscular activity in itself is not necessarily efficient in this respect: the end attained, or the environment ultimately associated with such muscular activity, being an exceedingly important factor in the attainment of such relief. However violently an animal may struggle, if the desired environment be not attained, there is no relief of the operative emotional tone; conversely, given that such an environment be attained easily, relief of the emotional tone may occur with a minimum of muscular exertion. In fact, in the case of certain animals, this relief is attained in the absence of any apparent muscular activity; the crouching hare is a case in point. In the case of the secondary hysterical manifestation, this latter state of affairs is what actually occurs, the immediate associate of the non-registration being an alteration of the immediate environment in the desired direction; the operative emotional tone is efficiently relieved in the absence of any apparent active muscular behaviour, and the very absence of such behaviour is the appropriate somatic response. Once such a state of affairs is established, it persists in association with the following factors: the conformity of the immediate environment with the centripetal orientation of the ego; the realization that any alteration in the somatic response may be associated with a reappearance of the uncongenial environment; and the completion of expectation by suggestion, as already described. In other words, once the condition has begun as a secondary manifestation, it tends to pass into the tertiary variety and to be maintained as such. In the secondary hysterical manifestations, therefore, we find the same principles at work as in the primary, only as far as the environment of adjustment is concerned they show a less specificity as regards that of determination, and a more essential association with centripetality of the ego as already existent. The intensity of the operative emotional tone necessary being a reciprocal variable of the orientation, it follows that such intensity may in certain cases be slight.

DISSOCIATION IN TERTIARY HYSTERIA.

Tertiary hysterical manifestations in the environment of adjustment conform in some respects to the primary and in others to the

secondary; for the present, we may consider those cases which are tertiary at their inception. They resemble the primary group in that the behaviour in the environment of adjustment shows a tendency to specificity as regards that of determination; on the other hand, they conform to the secondary in that they show the same reciprocal relationship between orientation and emotional tone. That is to say, tertiary hysteria resembles secondary in that a certain centripetality of the ego must already exist before the elements of the condition can become operative in the environment of determination for the manifestation of symptoms in that of adjustment, and in this respect it differs from the primary variety, in which the operative elements and the centripetality of the orientation progress together and in proportion to each other. But both the primary and the tertiary differ from the secondary in that the specific behaviour in association with these elements operative may be, and usually is, separated from the behaviour in the environment of adjustment by a considerable interval of time in the life of the patient. The operative specific element in secondary hysteria is the pain and uncongeniality of environment that immediately precedes the manifestation, the environments of determination and of adjustment overlapping in such cases.

In tertiary hysteria we have the activation of certain associational dispositions in the environment of determination in a centrifugal emotional atmosphere of intensity less than the maximum; in accordance with the nature of these associations, a certain line of behaviour is, so to speak, sketched out. These associational dispositions now become incorporated in the 'psychical life' of that part of the body implicated; as far as the environment of determination is concerned the condition produces no symptoms. The fixity of the behaviour so sketched is in proportion to the centripetality of the ego *already existing*; provided this be of sufficient intensity, then in the environment of adjustment the re-encountering of any of the associations concerned in the originally operative centrifugal emotional tone brings such behaviour into being as a tertiary hysterical manifestation; as such it is inevitable, and is outside the consciousness of the patient. It is as though the emotional disturbance in the latter environment undergoes no diffusion through the particular associational dispositions concerned, but is transferred *en bloc* to the predetermined somatic response, and in this way we see the essential difference between this form of hysteria and the other two. In the primary type the non-diffusion is through dispositions that have not been activated at all. In the secondary, it is through unactivated dispositions also, but which are in close and intimate connection with those that have been normally activated in the environment of

determination; the non-activation of which is associated with an abrupt cessation of psychical growth of the part affected, whose growth up to that time has been apparently normal. In the tertiary form we have the non-diffusion through dispositions already activated, but abnormally activated in that a specific line of somatic response has been 'set' in their atmosphere, this response becoming manifest as tertiary hysterical behaviour in the environment of adjustment if and when one of the associations in question is re-activated in the necessary centrifugal emotional-tone intensity.

As a case in point, we may take that of a patient who as a child had to attend upon his father during the latter's illness through gastric ulceration, the chief feature of the illness as far as specific behaviour is concerned being vomiting. The child is made to rub the back of his father for the characteristic dorsal pain that occurs in such ulceration. In the event of that child's ego being centripetal for his age, the associational dispositions activated in a centrifugal emotional tone of less than maximum intensity around 'pain in the back', 'massage', 'vomiting', will be accompanied by the setting of actual vomiting as the necessary behaviour. If now in the environment of adjustment anything tends to bring about the patient's attention to his back in the atmosphere of a centrifugal emotional tone, there is non-diffusion of the disturbance through the 'pain-in-the-back' group of dispositions, and there is inevitable vomiting as a tertiary hysterical symptom. On the other hand, in such a patient, an attack of some illness associated with nausea or actual vomiting may be accompanied by tonic muscle-spasm as though there were pain in the back, such spasm being developed in an atmosphere of protection to the part threatened.

To take a common variety of the tertiary hysterical manifestation, the tonic spasm of the foot or hand, the same principles are to be seen. In the event of a child having at any time to endure the application of a splint to a limb for some such condition as a fractured bone, we have the dispositions around 'splint' activated in a centrifugal emotional tone, and the behaviour set for such dispositions in a corresponding emotional tone is, broadly, behaviour for the protection of the part threatened. If in the environment of adjustment a splint be applied to any of the limbs, it is itself instrumental in re-creating the required emotional tone, and a protective mechanism as far as the particular limb is concerned* is manifested

* In extreme cases of this kind, the protective mechanism may be more definitely specific for the environment of determination. In such cases, if the associational dispositions activated in the environment of determination were around, say, the arm, in the environment of adjustment protective spasms in the arm are manifested whenever any of the associates are re-encountered, regardless

as a tertiary hysterical symptom. In these cases we have the essential non-diffusion of the emotional disturbance and the essential reproduction of the somatic response seen in primary hysteria; but whereas in the latter the appropriate response is mainly determined by incidents in the external environment, in tertiary hysteria it is the behaviour inherent in the individual as an animal that is perpetuated; such behaviour being, so to speak, ready to hand, and thereby necessitating a centrifugal emotional tone of proportionately diminished intensity for its initial perpetuation and subsequent manifestation as an hysterical symptom.

Those cases of tertiary hysteria which arise out of the primary and secondary groups are essentially the same as regards their mechanism as those that are tertiary *ab initio*. They are associated with the activation of associational dispositions secondarily along the path of the somatic response manifested as the particular symptom and therefore predetermined; in so far as we have these secondary activations of associational dispositions other than those that subserve somatic response only, we have a departure from pure hysteria in the direction of consciousness. In the early phases of this variety, however, the associational dispositions activated may be limited and only potentially compatible with consciousness; the associated behaviour, in that it is carried out apart from consciousness, can still be considered as hysterical.

Suppose we take the case of the patient who in the environment of determination non-registered an epileptic fit; in the environment of adjustment he reproduces certain somatic associates perpetuated at the time of the fit as hysterical behaviour in the pure form. But now, inevitably, he will want to form some explanation of the abnormal behaviour; he may be told, or he may conclude, that the particular incident in the environment of adjustment associated with the recrudescence of the centrifugal emotional tone, the bursting of a bomb, or whatever it may have been, brought about the fit; it is to be remembered that no possible memory of the real initial incident can be recalled. As soon as he comes to such a conclusion, associations in the sphere of noise and fit begin to be activated, and the patient enters into the tertiary phase of his condition. With increasing associational elaboration, decreasing intensities of noise

of the region of the body then affected: if, for example, the splint be applied in the environment of adjustment to the leg, these people develop arm-spasm. But in the majority of cases the appropriate somatic response is not protective behaviour that is specific for a particular incident, but protective behaviour in general, and the splint in this latter case would be associated with protective spasms in the region of the leg. In this way, of course, these cases of tertiary hysteria differ from the primary variety, in which the specificity is very evident.

bring about the fit; finally, the associational dispositions activated are sufficiently complex to be associated with consciousness, and the hysterical element disappears. In such cases, then, we have not so much the perpetuation of behaviour around associational dispositions activated in a centrifugal emotional tone of abnormal intensity of uncontrol, as the laying down of associations (other than somatic) upon such behaviour already perpetuated. The end-result is the same in the two cases, for in both we have the non-diffusion of the emotional disturbance in association with dispositions already activated in such an emotional atmosphere, with manifestation of previously perpetuated behaviour; only in the one such behaviour is set before the associational dispositions are activated, in the environment of determination, while in the other they are set at the same time.

As a corollary of this it would appear as though pure hysteria, primary, secondary, and tertiary, is only to be seen on the occasion of the first manifestation of the condition, and that in accordance with the various associations formed around the first manifestation by information, observation, and inference, we gradually pass towards conscious hysteria through the intermediate phase of the expectant (derived tertiary) form. But it must be remembered that the conscious form may be of delayed development, the rapidity with which it is established depending upon the extent of the associational dispositions activated around the specific manifestations, at first in their periods of absence, then, gradually, in the phase of their exhibition. Such consciousness at first takes the form of expectation; later, when completely developed, it is purposive and incompatible with hysteria.

So it may be said that there is no necessity to postulate isolated incidents, properly recorded at the time and subsequently cut away from the stream of consciousness, as the basis of psychical dissociation, and therefore, as an integral element in the evolution of hysterical symptoms. Psychical dissociation is explicable on the grounds of a non-registration of incidents in certain emotional-tone intensities of the centrifugal order, with associated setting of appropriate somatic responses. In so far as it is so explicable, methods of treatment of hysteria which are based on the 'unearthing' of isolated incidents have no value other than that imparted, incidentally or specifically, by the physician as a base for suggestion. It will be seen later that there is a group of the sympathetic neuroses that is essentially associated with the proper registration of an incident which is subsequently subjected to amnesia in an atmosphere of what may be called 'relative inattention', and this group is ideally treated

by the discovery of the incident in question and its incorporation into the patient's stream of consciousness. But this group is not hysterical, and the symptoms of the condition differ materially from hysterical behaviour in that they are characteristically invested with an atmosphere of worry and distress. The disorder in question will be dealt with under the mnemoneuroses.

SUMMARY.

1. Essential factors in the phenomenon of psychical dissociation in man are : the existence of associational dispositions compatible with the diffusion of emotional disturbances of the centrifugal order through them ; and the non-diffusion of such emotional disturbances. In animals other than man a similar non-diffusion occurs, but is associated with a lack of dispositions, the extent of which defect increases as the scale of evolution is descended.

2. The associational dispositions operative in this scheme of non-diffusion are those of recent evolutionary acquirement ; the more recent their acquisition the more liable are they to lend themselves to such non-diffusion, and vice versa. The associational dispositions subserving somatic response are the least likely to be so associated, but are operative in this manner in epilepsy.

3. The combination of available associational dispositions and the non-diffusion of an emotional disturbance of the centrifugal order through them is manifested in man in a general atmosphere of emotional uncontrol, and the behaviour which is specific of such an association in the environment of determination is recognized as hysteria in that of adjustment.

4. Hysteria is only to be diagnosed when the associational dispositions of an individual are normal or apparently normal. In the event of their being defective, there is hysterical behaviour in the atmosphere of dementia.

5. In so far as the proper diffusion of emotional disturbances of the centrifugal order through the available associational dispositions occurs, there is an associated atmosphere of emotional control and conscious memory. Given an atmosphere of emotional uncontrol, and non-diffusion of centrifugal emotional tones through available associational dispositions, there is a corresponding absence of conscious memory ; incidents in an environment associated with such an atmosphere are correspondingly 'non-registered'.

6. An essential associate of psychical dissociation, and therefore of hysteria, is the non-registration of incidents in an atmosphere of a centrifugal emotional tone, with, in the environment of determination, perpetuation of somatic response, and, in that of adjustment, re-activation of the somatic response already perpetuated.

7. Methods of treatment of hysteria which are based upon the discovery (recovery in memory) of specific incidents of the environment of determination are not logical and cannot be radical.

8. In *primary hysteria*, there is, in the environment of determination, the non-diffusion of a centrifugal emotional tone, with perpetuation of behaviour appropriate to the immediate environment at the time; the individual receiving a centripetal trend element operative in beginning, furthering, or completing the centripetal orientation of the ego. It is important to realize that at the time of occurrence of such a non-diffusion the centripetality of the ego is potential rather than actual, and has but subordinate value in the determination of primary hysteria.

In the environment of adjustment there is the manifestation of the behaviour perpetuated if and when a centrifugal emotional tone of sufficient intensity of uncontrol be encountered.

9. In *secondary hysteria*, the centripetal orientation of the ego is actual and not potential, and the environment of determination possesses its value merely as an associate in the formation of such an ego, and not as the specific determinant of such symptoms (of secondary hysteria) as may arise in the environment of adjustment. The associational dispositions concerned in the operative non-diffusion are those which subserve the psychical growth of the region of the body affected, and are necessarily in close association with those centripetally activated dispositions which form the basis of the primary somatic associations (q.v.). The behaviour manifested as secondary hysteria is not in response to behaviour already perpetuated, but is that which is conducive to the comfort of the centripetally orientated ego; it diminishes in apparent activity in accordance with the ease with which the appropriate environment is produced.

10. In *tertiary hysteria*, there is a combination of some of the factors operative in the primary variety with others of the secondary. It conforms to the former in that the environment of determination possesses a specific value in the formation of symptoms subsequently manifested in that of adjustment, and to the secondary in that it demands a centripetal orientation of the ego that is actual. In accordance with the actuality of the orientation, the intensity of the centrifugal emotional tone, to be operative, need only be low. As in the case of the secondary variety, the operative specific incidents of the environment of determination are those in the sphere of the primary somatic associations, and the associated appropriate behaviour is that which is inherent in all animals, and which is directed to the protection of the part of the body concerned. In the environment of adjustment, given that the specific incident of that

of determination be re-encountered, there is an associated non-diffusion of the emotional disturbance through available dispositions, and the appropriate protective behaviour is manifested as a tertiary hysterical symptom.

11. From what has been said, it will be seen that whereas the secondary and tertiary varieties of hysteria are both concerned with the primary somatic associations, the primary group is not necessarily so concerned. In other words, in the latter there is a specificity as regards the emotional tone operative only; in the former two groups, such an emotional tone, to be operative, must be in the sphere of the primary somatic associations. Also, in the former, the centripetality of the ego is potential rather than actual, while in the latter it must be actual; and, of the two, the actuality must be more complete in the secondary than the tertiary group.

12. These varieties are only to be looked upon as true to type on their first manifestation. In conformity with the associations activated during consciousness around them, associational dispositions are activated in the environment of determination which put them all into the derived tertiary group, and finally into the conscious variety of hysteria: which last, of course, is not hysteria properly so-called.

SCHEMATIC REPRESENTATION OF PSYCHICAL ASSOCIATION AND DISSOCIATION.

The information derived from diagrams intended to illustrate a theory is at the best of times liable to be deceptive, and this is particularly the case in any attempt to represent psychical problems by diagrams. So little is known about the forces operative, the mechanisms upon which they are assumed to act, the manner of their action, and the end-results of such action on these mechanisms, that no diagram can pretend to represent what actually occurs. Yet at the same time schematic representations are of possible utility in the comparison of one process with another, given that the same symbols are employed in each case, and that the resulting information is comparative and in no way pictorial of what is considered to occur in reality.

The principal difficulty, inseparable from schematic representations of psychical processes, is that which deals with conceptions of space and time in relation to these processes. As far as the phenomenal brain is concerned, these factors possess an obvious value, and in that the 'framework' of the following schemes may be taken as representing anatomical elements, its presentation as a diagram is permissible. It is, or may be, different, however, when we endeavour

to show the effects on such elements of an emotional-tone disturbance: when it is attempted to show such elements in association with such a disturbance. The risk is thereby run of "multiplying apples by oranges". A result is possible, of course, but it is not particularly instructive.

In the following diagrams it is assumed:—

1. That there is some form of association or interaction between certain anatomical elements and an emotional-tone disturbance. (Or, in other words, that the 'state' of such elements is liable to vary according as to whether an emotional tone is being experienced or is not.)

2. That consciousness, diffusion of an emotional-tone disturbance, and the number of anatomical associational dispositions in activation at any one time, are mutually dependent, and the intensity of any one of these three factors at any time is directly proportionate to the intensity of the other two prevailing at that time. (Consciousness of a limb, for example, at any one time, is proportionate to the degree of diffusion of an emotional-tone disturbance in association with that limb, through all the available anatomical associational dispositions with which that limb is concerned.)

3. That emotional control is associated with diffusion of an emotional-tone disturbance through available anatomical associational dispositions, and varies directly with the degree of diffusion occurring.

4. That the possibility of the recall of experiences in pictorial memory is in some way associated with the proper activation of available associational dispositions in the atmosphere of an emotional-tone disturbance evoked in relation to these experiences on former occasions: the greater the number of such dispositions activated in such an atmosphere, the more ready the possibility of the recall, and the more perfect the pictorial memory.

In the following schemes the circles represent available anatomical dispositions, and the dots the potentiality for somatic response. The activation of such dispositions in an atmosphere of an emotional-tone disturbance is indicated by shading or by blocking, according as diffusion is or is not occurring at the time of the representation; variability of somatic response being shown by the number of arrows in the dotted zone; automaticity of such response by one arrow only in this zone. Anatomical associational dispositions the re-activation of which is in some way concerned with the recall of an experience in pictorial memory, are represented by numerals in the circles supposed to be concerned; it should be realized in this latter case that the circle so indicated may represent a host of such dispositions as are shown in the scheme of *Fig. 5*.

Fig. 9 may be taken as representing the association-dispositions and potentiality for muscular or somatic response in an ideally simple non-human animal ; *Fig. 10* the state of affairs in such an animal under the influence of an emotional tone. The limitation of the association-dispositions is associated with a transference *en bloc* of the emotional-



Fig. 9.

tone disturbance, of necessity : somatic response is purely automatic, whether the emotional tone is of the centrifugal or the centripetal variety. Such an animal is, to all intents and purposes, entirely a creature of its environment, and differs from inorganic matter only



Fig. 10.

in so far as it possesses the potentiality for development into the higher forms of life.

Figs. 11 and *12* would represent in the same symbols the state of affairs obtaining in more highly evolved forms of life. Such animals, not being human, do not control their emotional tones of the centri-

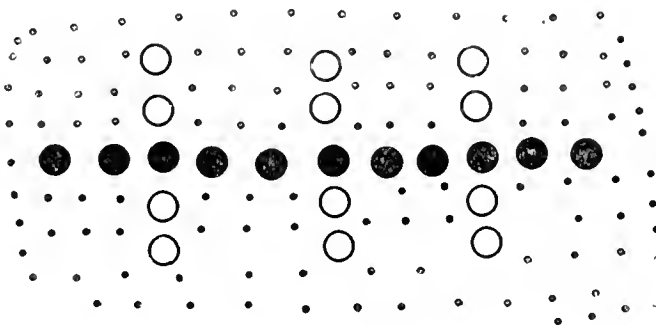


Fig. 11.

fugal order, and their behaviour under the influence of such tones is automatic : this is represented in *Fig. 11*. *Fig. 12* represents the psychical state of the same type of life under the sway of an emotional tone of the centripetal order ; there is diffusion through all the association-dispositions available, and behaviour is not necessarily automatic. It should be remembered that the human would appear to differ from the non-human type of animal in that he has acquired control of his centrifugal emotional tones (that is, his

extended range of association-dispositions renders diffusion of such tones a possibility). His behaviour under the influence of the centripetal tones would appear to differ from the non-human animal chiefly

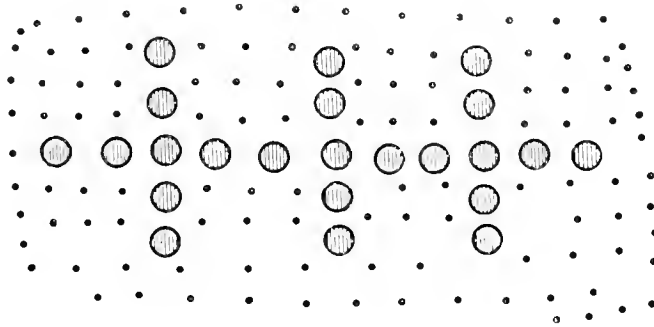


Fig. 12.

in this : the absolute numerical increase in the association-dispositions available is associated with the persistent revival of the initial

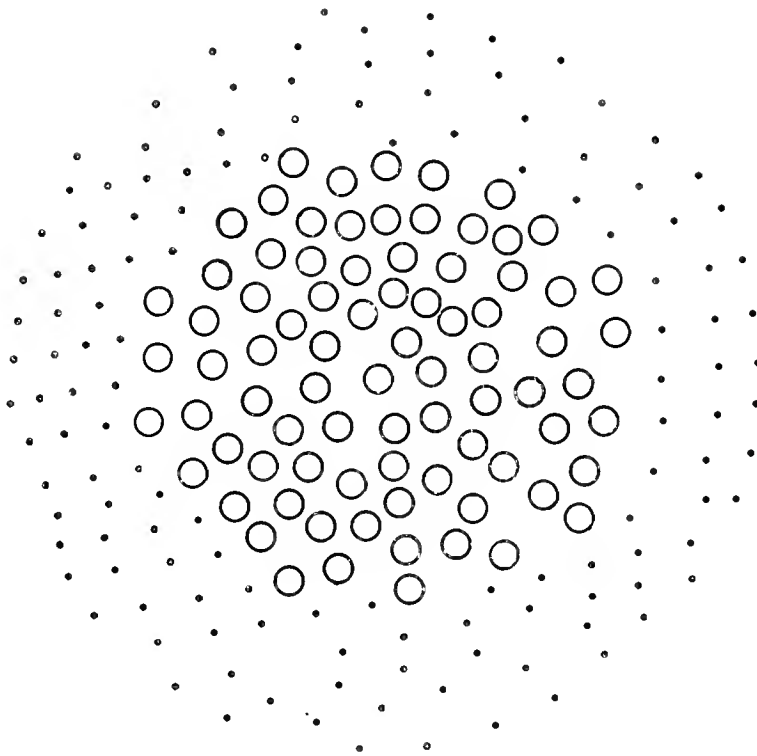


Fig. 13.

emotional tone through the hosts of immediate and remote associations primarily formed in the sphere of that emotional tone. In the non-human animal of the type under consideration the relative

limitation of such dispositions available militates against the possibility of such a revival; there is in time de-emotionalization as far as the object initially associated with that emotional tone is concerned; and the state of the animal towards that object is one of familiarity. In the human, the constant revival of the emotional tone effectively militates against the formation of such an attitude towards the object primarily associated with that tone.

Figs. 13 and 14 may be taken as representing the state of affairs in the normal human being; the former before and the latter during

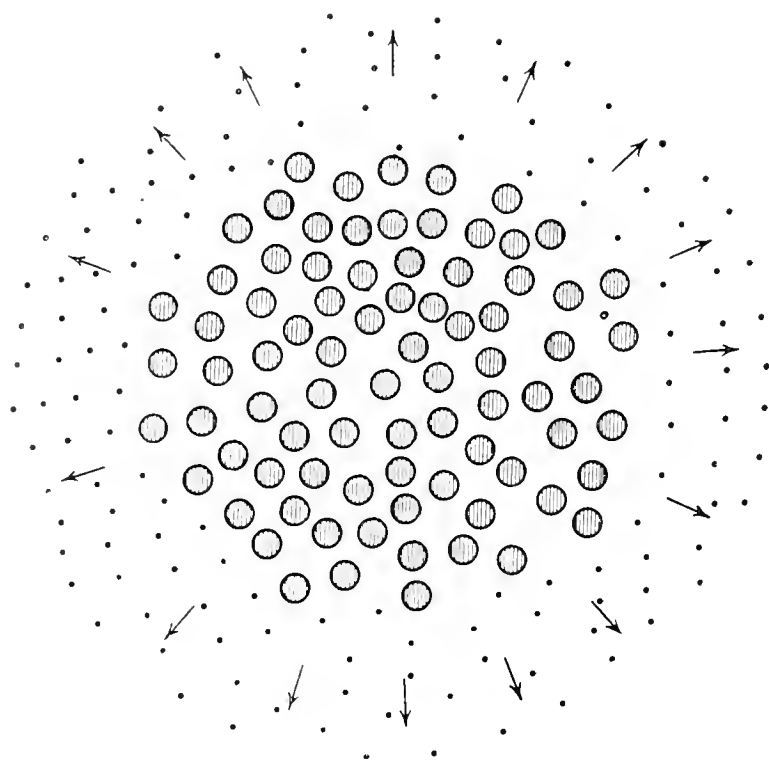


Fig. 14.

the experience of an emotional tone. (The emotional tone in the diagram under consideration and in the subsequent diagrams is to be looked upon as being of the centrifugal order.) In so far as there is complete diffusion of the emotional-tone disturbance through all the associational dispositions available, we have complete emotional control, and non-automatic or 'variable' somatic response. The thoroughness of the diffusion and the numerical range of the anatomical association-dispositions activated are directly proportional to the readiness with which the associated experience is recallable in memory, and to the perfection of the memory so recalled.

Given that in any one particular individual the majority of anatomical association-dispositions have been activated in a properly diffused (properly controlled) centrifugal emotional-tone disturbance, then the majority of his memories will be associated with revival of such centrifugal emotional-tone disturbance, and such an individual is 'centrifugally orientated'.

Fig. 15 indicates the condition of affairs in an emotionally uncontrolled individual during the incidence of a centrifugal emotional-tone disturbance ; it may be looked upon as a pictorial representation

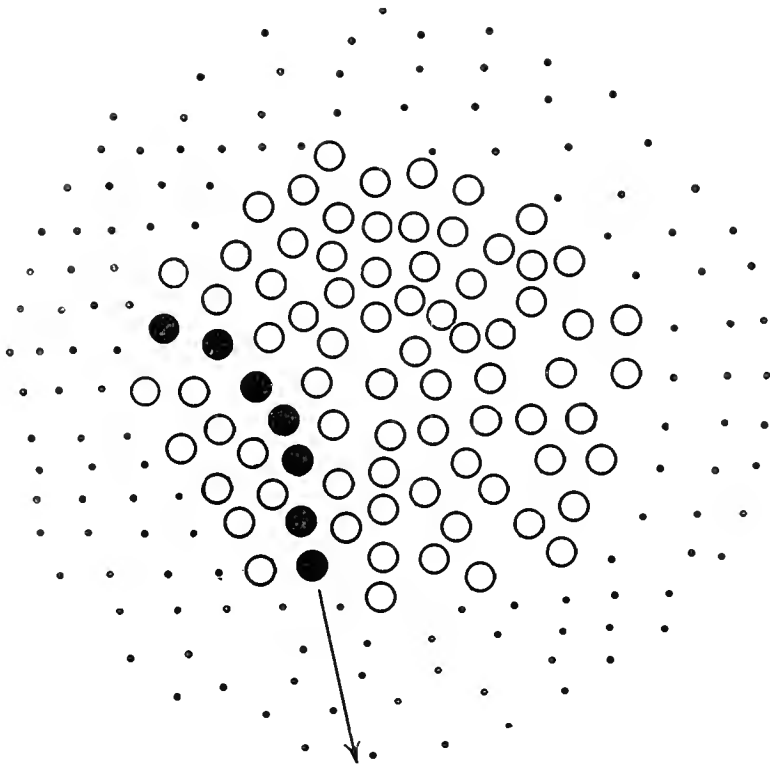


Fig. 15.

of 'psychical dissociation', and as symbolic of what occurs in the environment of determination in a child which is developing in an atmosphere conducive to the manifestation of hysterical symptoms in the environment of adjustment. We have a non-diffusion of the emotional-tone disturbance, and a transference *en bloc* of such a disturbance, with associated automatic somatic response.

In accordance with the principles mentioned above (consciousness, diffusion of an emotional-tone disturbance, and the number of anatomical associational dispositions in activation at any one time are mutually dependent, and the intensity of any one of these three factors at any time is directly proportionate to the intensity of the

other two prevailing at that time), the psychical state represented by *Fig. 15* would be one of impairment of consciousness for the period during which this state obtains: until the emotional-tone disturbance 'fades' in association with the somatic behaviour determined at the time. The non-diffusion of the disturbance, and its corollary, the non-activation of available anatomical associational dispositions, implies the non-registration of the experience in pictorial memory; there is not so much an amnesia for that experience as a non-occurrence of that experience as far as such memory is concerned.

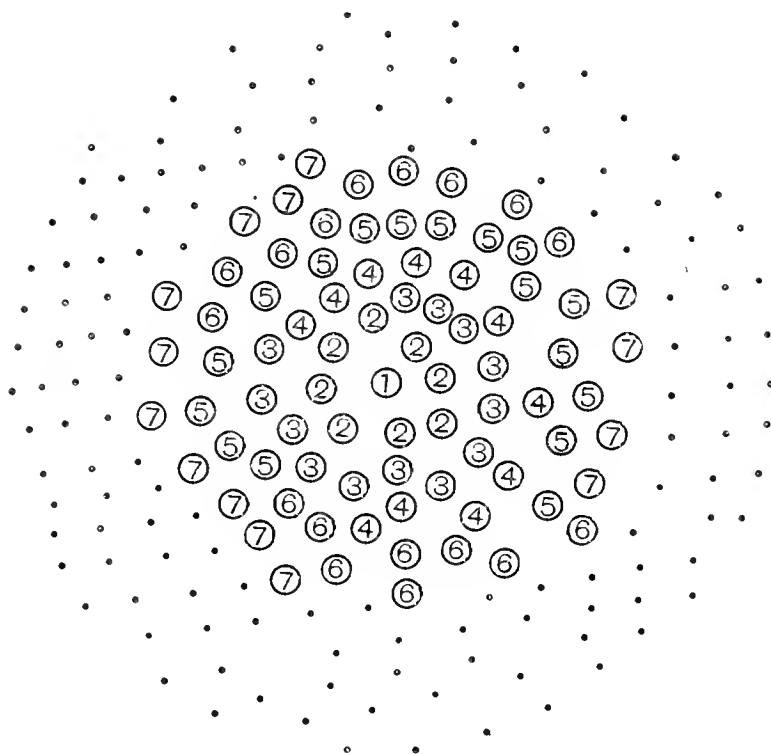


Fig. 16.

The reproduction of the associated emotional-tone in after life, in analogous intensity, tends to the reproduction of this state of affairs, impairment of consciousness and automatic somatic response: as the frequency of the occurrence of this state increases, the intensity of the emotional tone necessarily proportionately decreases, and with the decrease its diffusion through available associational dispositions is rendered likely. The true hysterical manifestation, in other words, tends with time to become 'conscious hysteria', the somatic response being perpetuated, in untreated cases, as a habit.

Fig. 16 indicates normal psychical growth of the body or regions of the body. The circles are to be taken as representing such

anatomical-psychical base as there may be that is needful for pictorial memory of such regions in their relations to the external environment, and to conceptions of time and space. As the individual ages, these experience-records increase: in the diagram this increase is indicated by numerals within the circles up to the seventh or eighth decade. Secondary hysteria, indicated by *Fig. 17*, shows a checking in the progression of these experience-records: there is dissociation in their sphere for a period during which that particular region of the body is non-existent psychically as far as current experience is concerned:

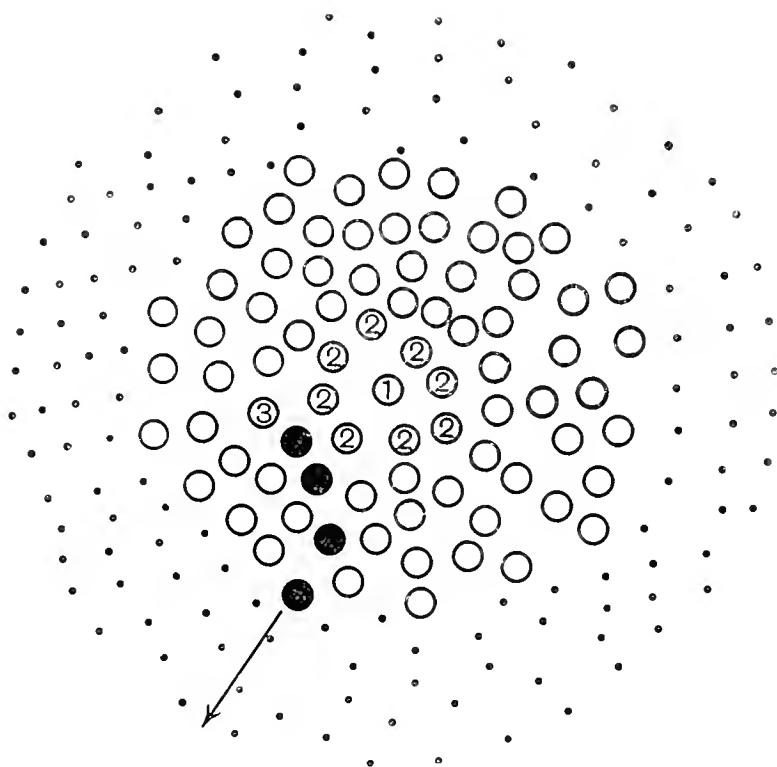


Fig. 17.

consciousness in its sphere being diminished in accordance with the psychical dissociation operative. In so far as the operative emotional tone is not sufficiently intense to lessen consciousness as a whole (its defect of intensity being compensated for by the centripetal orientation of the ego, which is a *fait accompli* at the time of life these secondary manifestations generally develop), the disability of the limb is memorized pictorially, and such memory forms part of the limb-experience of that particular decade.

The duration of the symptom as a secondary hysterical manifestation is probably short, and is dependent, among other things, upon the extent of the centripetal orientation of the ego obtaining at

the time, and the intensity of the operative emotional tone. Other things being equal, these two factors vary inversely as far as their influence upon the duration of the symptom as a secondary manifestation is concerned; the greater the centripetal orientation, the less intense need the emotional tone be for the initiation of such a secondary hysteria, the shorter the duration of the symptom as a secondary manifestation, and the more rapid its conversion into the tertiary or expectant variety; such an atmosphere is conducive to a very prolonged tertiary manifestation. On the other hand, given

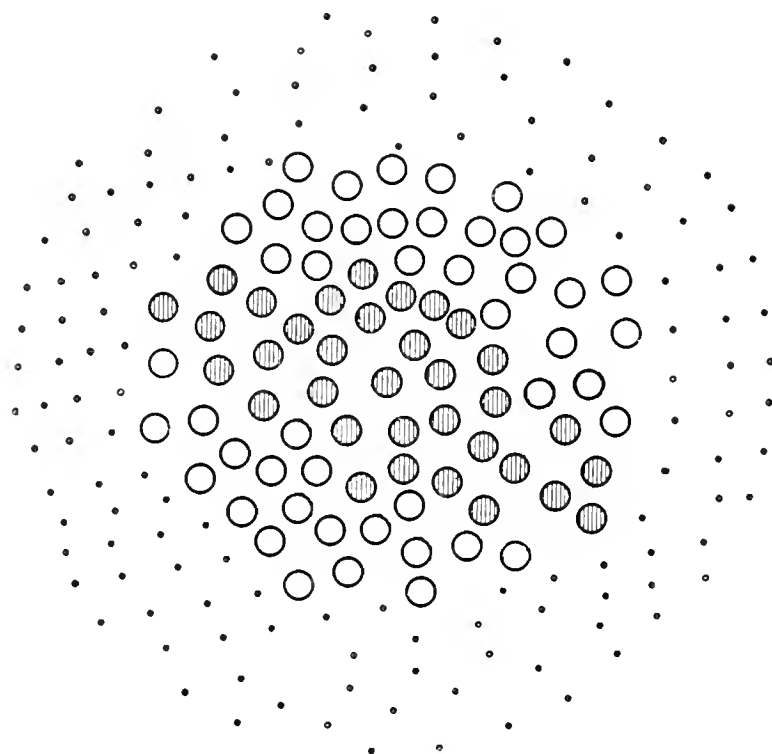


Fig. 18.

that the emotional-tone intensity is great and the centripetal orientation of the ego of but moderate development, the secondary phase may be prolonged, and the tertiary, when it supervenes, more amenable to treatment. Finally, in the event of the emotional-tone operative being of very high intensity and the centripetal orientation only slight, then we have the state of affairs conducive to the development of tonic muscle-spasms of the primary hysterical variety, as described above, rather than of pure secondary hysteria.

Figs. 18 and 19 symbolize hysterical manifestations that are tertiary from the beginning, the former in the phase of determination, the latter in that of adjustment. For the sake of simplicity we may

take them as exemplifying the commonest of such tertiary phenomena, the tertiary tonic hysterical muscle-spasm.

In the environment of determination (*Fig. 18*), we have, let us say, the experience of a splint, or some other specific mechanism, in an atmosphere of pain. There is no psychical dissociation at this time and the incident is memorized; but in accordance with the 'hysterical environment' in which the patient is developing, the emotional-tone diffusion is incomplete; memorization is imperfect, and there is associated defect in criticism as far as that experience is concerned. The patient's attitude to the experience is faulty.

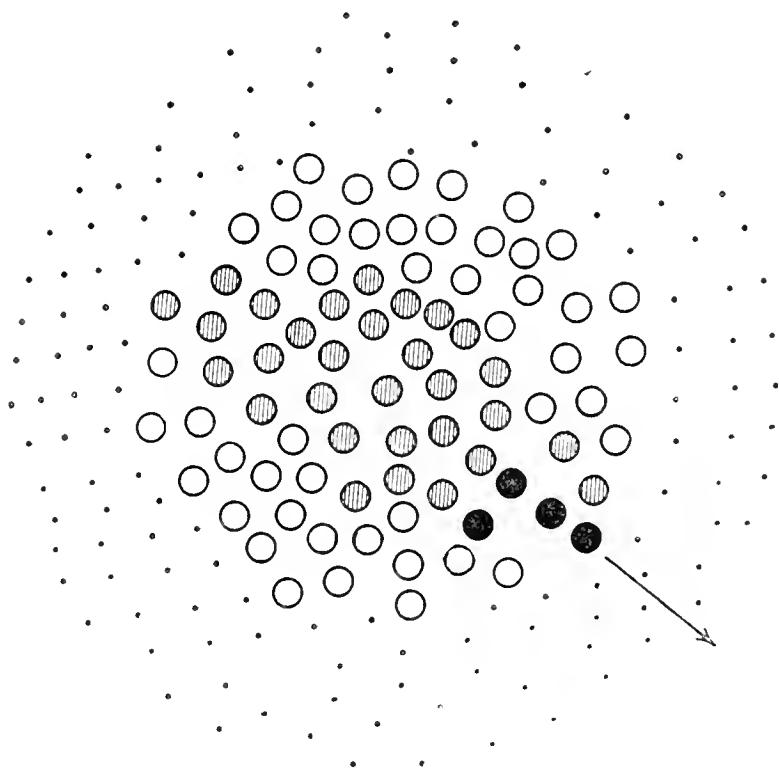


Fig. 19.

In the environment of adjustment (*Fig. 19*), if and when the particular mechanism be re-encountered, an emotional-tone intensity is liable to be aroused which is associated with psychical dissociation and automatic pre-arranged somatic behaviour determined by the expectation of injury to the part of the body concerned. There are two factors in this mechanism which require consideration. (1) It does not follow that the particular mechanism, splint or other appliance, is specifically invested with the associated emotional-tone intensity; the more this is so, the greater the tendency for the subsequent hysterical manifestation to be of the primary variety,

and the original 'splint-pain' experience to have been of the nature of a primary specific incident. What is more common is that the splint is an associated element in a general atmosphere of centrifugal emotional-tone unrest, and that it reinforces this unrest and renders it operative. In other words, the application of a splint to an uninjured individual would not be operative in this way; in the event of such an application being associated with muscle-spasm, such spasm would be rather of the primary hysterical variety than the pure tertiary. The essential element for the production of tonic

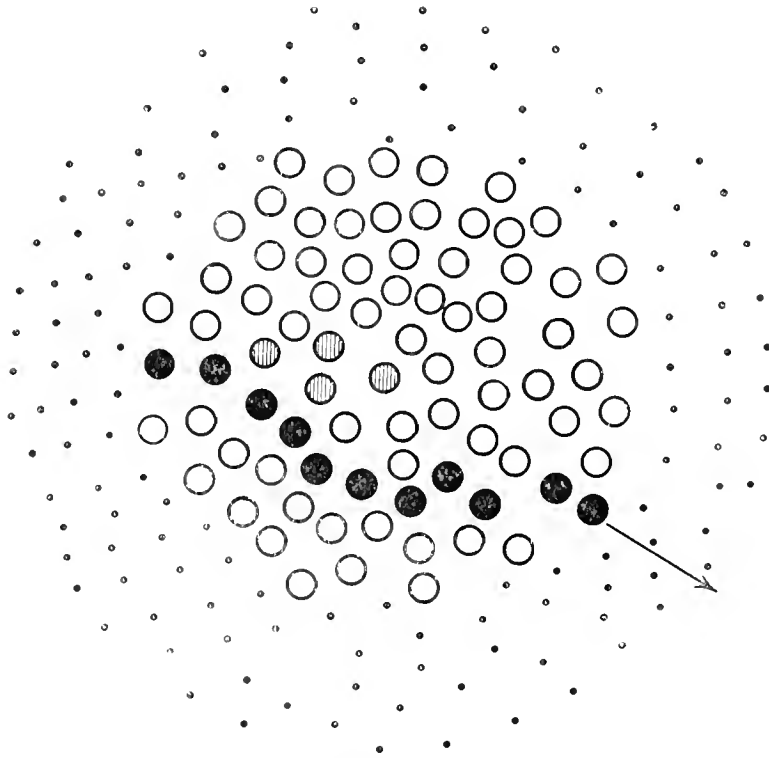


Fig. 20.

muscle-spasm as a tertiary manifestation is defective criticism, manifested psychically as liability to suggestion. (2) In so far as there has been no psychical dissociation operative in the environment of determination in association with the original experience of the splint, the automatic somatic response in that of adjustment is absolutely reasonable and intelligible at first sight as a mechanism of protection of the part affected. Every normal individual must have noticed the 'cringing' tendency to invert the foot that he experiences when he is expecting it to be injured; given that he has suffered injury to that foot in times past, this tendency to inversion is proportionately more marked; but it is checked by his powers of judgement and criticism, brought to bear upon the general atmosphere of

imminence of discomfort. In the hysterical patient, however, these powers of criticism are defective, and in so far as they are, then the tendency to such inversion of the foot is all the more marked; the associated behaviour being thereby pre-arranged.

This mechanism is peculiarly liable to show itself in mentally deficient people, and the psychical state in such people is symbolized in *Fig. 21*. Here, through congenital defect, proper memorization and criticism are impossible, and the defect in question represents in a concrete form the effects of the hysterical environment of deter-

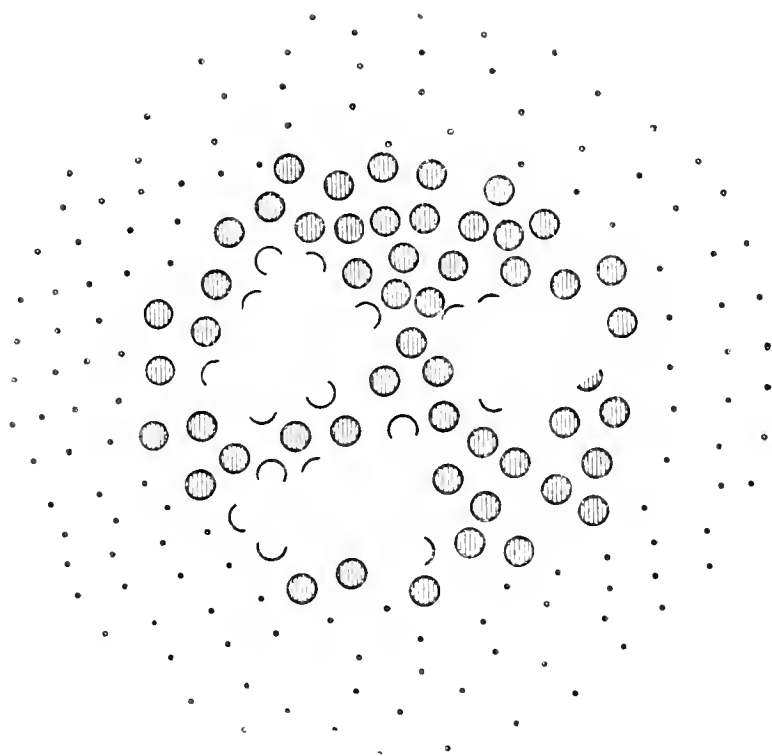


Fig. 21.

mination on normally constituted people. In such cases, of course, the prospect of cure is remote, and is dependent upon the rendering of the disability the cause of greater discomfort than the original factor could have been.

In *Fig. 20* the mechanism of the primary hysterical tonic muscle-spasm is symbolized, with retention of memory for unessential details. The state of affairs differs from that which obtains in the ordinary form of primary hysteria only in so far as there is such memory, and the fact that there is the linking-up of such memory with the disability is associated with the period of development at which this form of primary hysteria tends to be manifested; as has already been mentioned, it tends to occur in the environment of adjustment,

in the absence of any specific psychical dissociation in that of determination as far as this particular mode of behaviour is concerned. In other words, the critical powers, though defective, are more extensive at the time of occurrence of the operative psychical dissociation, in accordance with the increased age of the patient. His powers of criticism enable him to link up certain experiences occurring immediately before the operative dissociation with his subsequent symptomatology; their 'causal' rôle is reinforced by the knowledge (critical) possessed by the patient that similar experiences have been associated with disabilities in cases that he knows or has heard of. The small child, growing up in the environment conducive to the development of obtrusive hysterical symptoms in after life, possesses no such critical knowledge in relation to the incidence of an emotional tone accompanied by dissociation, and he has no memories at all in the sphere of such an incident; otherwise the mechanism in the two cases is the same.

A careful examination into these two types of hysteria—the pure tertiary, as exemplified in *Figs. 18 and 19*, and the primary variety, 'determined in the environment of adjustment' (*Fig. 20*)—shows that the difference between them is essentially one of degree and not of kind. Given that the patient be centripetally determined, and that his available powers of criticism be defective, then it may be said that the more complete a specific experience-memory (within the limits of the defect necessarily associated with his centripetal orientation), the less need the intensity of the requisite emotional tone be for the manifestation of an hysterical symptom, which is then of the pure tertiary type; and the less complete the specific experience-memory, the greater must be the intensity of the requisite emotional tone for such a manifestation, which is then primary in type. The 'completeness' of the experience-memory would appear to depend to some extent in this connexion on the actual experience by the patient himself of the incident concerned, apart from knowledge gained at second-hand.

To put the question on a concrete basis, we may say that in the splint-pain mechanism of a pure tertiary hysterical manifestation, this manifestation is associated with a relatively complete memory-experience, the patient himself having had personal experience of a splint in an atmosphere of pain at some time in his environment of determination; this being so, the intensity of an emotional tone necessary for the occurrence of a pure tertiary muscle-spasm in the environment of adjustment is slight. In the case, however, of the soldier who manifests the 'attitude of general flexion' and remembers hearing the explosion of a bomb, his experience-memory is relatively slight; it has been gained from hearing conversations among his

companions about 'shell-shock' and 'paralyses'; it has no basis on personal experience; and the necessary intensity of the emotional tone for the formation of the symptom is great; the manifestation is here of the primary variety. But this soldier differs from the child who has subjected an experience to dissociation in the sphere of an emotional tone of great intensity, in that he has these experience-memories at all; the child, on encountering a man in an epileptic fit, has had no associations up to that time of such an experience: dissociation occurs without any memorization at all, and only becomes manifest if and when in the environment of adjustment there is a re-experience of the emotional tone in analogous intensity.

*PART III.—THE PROGRESSIVE OR SYMPATHETIC
FUNCTIONAL NERVOUS DISORDERS.*

CHAPTER IX.

PRELIMINARY CONSIDERATIONS.

THE group of disorders that have been under discussion are characterized psychically by dissociation and clinically by a symptomatology in which the rôle played by the sympathetic nervous system is subordinate, when it is operative at all. Evolved in an environment of determination that effectively militates against the development of emotional control in the intensity common to the majority of men, and which has arisen out of the uncontrolled emotionalism prevalent among the non-human animals, such disorders are essentially failures of development and therefore retrogressive. The disorders now to be considered differ acutely from this retrogressive group. They do not become manifest unless and until a degree of emotional control, incompatible with obtrusive hysteria, is developed : and the sympathetic nervous system plays an essential rôle in their symptomatology.* A lack of emotional control of sufficient intensity to be associated with obtrusive hysteria precludes the possibility of the formation of the progressive functional disorders, and though a lack of such control of less intensity than this may allow of their development, the symptomatology is modified accordingly. Further, when discussing hysteria, stress was laid on the fact that the lack of control operative affected the emotions as a whole : a lack of the proper balance, not between the emotions of the two orders

* The operations of the sympathetic nervous system are of such fundamental importance in the manifestation of the progressive or non-hysterical functional nervous disorders that a definition, based on this fact, is possible. If the word 'neurasthenia' possesses any clinical value at all, it is so operative in differentiating hysterical from non-hysterical functional nervous manifestations, and neurasthenic states may then be defined as those functional nervous disorders for the manifestation of which the sympathetic nervous system plays an essential and a dominant rôle. Clinically, of course, such a definition is too broad to be of any great value : the term 'neurasthenia' is inadmissible as a diagnosis.

centrifugal and centripetal, but between the relative control of such emotional tones, plays a part in the genesis of certain of the disorders of the progressive group.*

The disorders of the progressive group are: (1) *The instinct-distortion neuroses, or dysthymias*; (2) *The memory-neuroses (mnemo-neuroses)*. It is important to realize that these two groups, though distinct, are not independent of each other. The dysthymias may, and usually do, begin as primary manifestations; they show a well-marked tendency to pass, in the course of time, into the group of the memory-neuroses; a tendency which is only too frequently demonstrated in clinical practice. The memory-neuroses, though generally perhaps beginning as one or other of the dysthymias, may develop as a primary functional disorder. At the same time the dysthymias may subside without passing through a mnemonerotie phase. In other words, the psychical basis of the two groups is the same in kind and, as seen later, may be summarized as psychical unfitness on the part of an individual possessed of emotional control in the environment of determination, for his environment of adjustment. This being so, we should expect, in accordance with the broad principles of evolution, in cases that are not interfered with, the destruction of the individual, and this is what tends to occur. The essential involvement of the sympathetic nervous system induces in the course of time organic disease, usually one of the arteriosclerotic manifestations (cerebral atheroma, renal cirrhosis, coronary sclerosis, and so forth), and precocious death; these progressive functional nervous manifestations are in reality indications of maladaptation to the environment obtaining, and, therefore, forerunners of a deletion process. Logically, to complete the above series a third group should be added—namely, arteriosclerosis; this third phase, however, does not come into a discussion of functional nervous disorders.

It has already been seen that the idealized instinct presents three aspects for discussion, the perceptive, affective, and effective; the cognitive, affective, and conative aspects of McDougall respectively. We cannot say that any one aspect of these three is the 'cause' of the others, or that any two of them 'cause' the third; all three are associated factors in the one scheme, and the proper working of any one is associated with the proper adjustment of the other two. In an animal correctly adjusted to its environment all three of these aspects act in accordance with each other, and any discordance in their mutual activity is potentially harmful to that animal.

* It will be seen later that such lack of balance tends to show an association with congenital determination.

From the point of view of clinical medicine, the seven primary instinctive activities in man fall into the following grouping:—

1. *A premonitory state*,* which is manifested outwardly by the behaviour of curiosity in the emotional atmosphere of wonder.

2. *Centrifugal*, in which the animal is out of harmony with its surroundings and which is conducive to the rapid rectification of this discordance; flight under the emotions of fear and recoil under that of disgust.

3. *Centripetal*, a state in the influence of which the animal is specially adapted for the performance of certain specific functions intimately associated with the perpetuation of its kind; parental care and its associated activities in the emotional atmosphere of tenderness.

4. *Derived*, a state arising when for any cause the animal is impeded in following out the conative activities proper to the emotional tone prevailing at the time; pugnacity in the emotional atmosphere of anger. Clinically the emotional tone of anger conforms to the centrifugal order of emotionalism; it is capable of immediate development to its maximum intensity; maximum intensity can be induced at any time in the atmosphere of centripetal emotionalism, and familiarity never develops out of it.

So, clinically, emotional activity is to be regarded as prodromal, centrifugal, and centripetal, and as it will readily be seen that the prodromal state acquires its value through the specific rapidity with which it is replaced either by a tone of the centrifugal order or by the subsidence from consciousness of all emotionalism with associated development of familiarity, we see that symptoms referable to misused emotional activity fall into two groups, according as to whether the emotional atmosphere concerned is centrifugal or centripetal.

It may be well to mention here the two states described by McDougall as the 'self-regarding' instincts; the tendency to behaviour of elation under the emotion of self-appreciation, and of abasement under that of self-depreciation. In his book on *The Neurotic Constitution*, Adler has laid special stress on the importance of the emotion of self-appreciation in the formation of psychoneuroses, but from the clinical point of view it is difficult to separate these two self-regarding sentiments from the centripetal and centrifugal groups respectively; they are in reality indices of the intensity with which one or the other of them is operative at any time. In an atmosphere charged with the associates which conduce to a centripetal emotional state the

* Premonitory from the standpoint that the associated psychosomatic state is specifically associated with an atmosphere which is conducive to the rapid rise into consciousness of a centrifugal emotional tone, or the rapid subsidence from consciousness of any form of emotionalism with consequent development of familiarity.

animal concerned is self-assertive ; in one which is charged with fear he is self-depreciative. The specific behaviour of these two self-regarding sentiments is the characteristic behaviour of the centripetal and centrifugal atmospheres respectively. In so far, then, as the environment responsible for the rise into consciousness of these sentiments is the same as that associated with centripetal or centrifugal emotional tones, and the behaviour in each case is the same, just so far from the standpoint of clinical medicine are these two states inseparable from these two orders of emotional tones ; they conform etiologically and symptomatically. From the sociology point of view, the self-regarding sentiments may, and probably do, possess values in themselves, but for the physician the importance they have is purely dependent on their centripetal and centrifugal content. The emotions in man, as far as they act in the determination of the progressive functional nervous disorders, are to be considered from two aspects only, the centripetal and centrifugal respectively.

Emotionalism may be looked upon as the essential driving force of all living matter, out of which and upon which the processes of natural selection have evolved the psychosomatic manifestations which prevail in man. It is essential to realize that for the harmonious behaviour of all animals there must be harmony in the relations between the three aspects of instinctive-behaviour activity already mentioned ; cognition, emotion, and conation must have their proper mutual relationship for this purpose. Whenever in the scale of evolution we meet with conditions of life which impede this proper relationship, then we meet with psychosomatic disorders quite apart from demonstrable pathological lesions ; such stage of progression is associated with the appearance of specific functional nervous disorders. As soon as an animal begins to control its emotionalism, and to impede the free association between emotional tone and appropriate conative activity that has obtained throughout the ages in situations which evoke that emotional tone, then progressive functional nervous disorders become possible. Thus, then, we see that the progressive functional nervous disorders are the complement of the hysterical, the former becoming possible by the operation of factors which militate against the latter, factors which may be summarized as those conducive to emotional control.

We have seen that emotional control, making its appearance for the first time as an operating factor in man, is not complete in man as at present constituted ; a degree of control which is too great for the manifestations of obtrusive hysteria and too little to be compatible with the normal appearing in mankind as hyperthymia. In so far as hyperthymic people have the elements of emotional control at all, they are liable to the progressive functional nervous disorders ;

but, as will be seen later, they react to these disorders in a manner other than do normal men. They do not show hysterical behaviour, for their symptoms are not referable to any dissociation; they react to their disorder in a way analogous to their reaction to pain as already described.

As we ascend the scale of emotional control we get further and further away from the excessive emotionalism displayed by hyperthymic people in their manifestations of the progressive functional nervous disorders, but we never get away from emotionalism *in toto*; the most controlled of men is nevertheless very far short of complete emotional control; the apparent emotionalism in such people is, however, inconspicuous in their conscious hours. The occurrence of progressive functional nervous disorders in such people as regards inevitability is all the more certain in proportion to the degree of control they bring to bear upon their emotions; it is directly proportionate, in other words, to the emotional value of the environment. Whereas in hyperthymic persons an environment need not be one of great emotional intensity to bring about symptoms, in normal people it must.

It is not, however, the emotion-evoking element alone that is operative in these cases; the time factor also plays a part. The hyperthymic person breaks down quickly where the normal man endures for a considerable time. It is possible that evolution in the future will progress along these lines; with increasing emotional control the intensity of the emotion-provocative elements of an environment will have to become very great, and the period of exposure to such an environment will have to be very lengthy, before manifestations of the progressive functional nervous disorders make their appearance; but until emotional control is complete or every emotion-provoking element disappears from all possible environments, the possibility of these disorders will remain.

CHAPTER X.

THE INSTINCT-DISTORTION NEUROSES OR DYSTHYMIAS.

FOR the development of the disorders now to be discussed, it is necessary that an emotional tone, either centrifugal or centripetal, be consciously experienced and that the appropriate conative activity be not evoked. We have a distortion in the specific instinctive activity, and these disorders may be called 'instinct-distortion' neuroses, or, more conveniently, dysthymias. They naturally fall into the two classes, centrifugal and centripetal.

DYSTHYMIA ASSOCIATED WITH EMOTIONAL TONES OF THE CENTRIFUGAL ORDER: THE TERROR-NEUROSIS.

An animal other than human, when thoroughly terrified, either runs away or crouches; in the former case the environment is changed *en bloc*, in the latter the inimical element passes. In this latter case, however, the mechanism subserving flight is put into a state of preparedness; in the event of the impending danger not passing, headlong flight is instituted. That is to say, the crouching mechanism is not compatible with maximum terror; it is a manifestation of an intensity of fear that is less than the maximum.

The body mechanism which subserves flight has been investigated by Cannon,* and it is instrumental in bringing about: increased muscle excitability; the redistribution of the blood in the body so that the brain, heart, lungs, and muscles are specially ensured an efficient supply; the removal from the body of inert substances which would otherwise impede the animal in flight; increase in the sugar content of the blood; increased coagulability of the blood. According to Cannon, the chief intermediary responsible for these phenomena is adrenin, the occurrence of which in the body is intimately associated with the activity of the sympathetic nervous system. That is to say, sympathetic nervous activity is an essential associate of the conative aspect of emotions of the centrifugal order; it is

* *Bodily Changes in Pain, Hunger, Fear, and Rage*. Appleton and Company, 1915.

important to realize that the experience of such an emotional tone is associated with specific activity of this system.

In animals devoid of emotional control, the conative aspect of instinctive activity is inevitably associated with the emotional; this inevitability disappears with the appearance of such control, and in man we have many situations in which a strongly experienced emotional tone is divorced from efficient appropriate conation. But in these situations, in so far as the emotion is experienced, there is associated activation of the sympathetic nervous system, not, however, translated into efficient specific behaviour; the somatic symptoms of centrifugal dysthymia are dependent on this fact. The dysthymias, however, are not only characterized by somatic symptoms; they are associated also with psychical abnormalities. In the general discussion on the functional nervous disorders it was pointed out that psychical comfort was directly proportionate, other things being equal, to the freedom with which an emotional tone is associated with appropriate somatic response; in the hysterias the somatic responses are strictly in accordance with the emotional tone concerned as far as the individual, evolved in a specific environment of determination, is concerned. In the hysterias there is little or no psychical distress. In the dysthymias, however, the reverse obtains; the essence of their evolution is a non-association of a strongly-felt emotional tone with its appropriate conative activity, and in these conditions the mental discomfort is maximal. The symptomatology of the dysthymias is to be considered from the two points of view: the somatic and the psychical.

Somatic Symptoms.—The somatic symptoms of centrifugal dysthymia represent in an inefficient manner the somatic manifestations of fear, and those body mechanisms which subserve efficient behaviour in the atmosphere of fear are the media by means of which centrifugal dysthymic symptoms become apparent. In so far as there are two modes of behaviour among animals under the influence of fear, flight and crouching respectively, there are two symptom-groups of the fear dysthymia; as a matter of fact, that which is referable to the flight-complex is very much the more common.* In this form of the

* From what has been said above, it is evident that from the theoretical standpoint the centrifugal dysthymias include more than conditions referable to the emotion of fear; emotional disturbances in the atmosphere of disgust and of anger come into this category. Dysthymia in the sphere of disgust would appear to be very rare if it occurs at all; personally I have never come across a case which would bear this interpretation. This state of affairs is only to be expected when we remember the recent appearance of disgust as distinct from fear in the animal kingdom; it would appear probable that the rôle of disgust in the instinct-distortion neuroses is rather one of reinforcing the terror-neurosis. The dysthymia associated with the emotion of anger will be dealt with subsequently.

terror-neurosis we have muscular excitability represented by tremors of the muscles which subserve locomotion ; it is of interest that the ocular muscles and those of the tongue do not show this tremor. The tremor is fine and is not characteristically increased by intention. There is no inco-ordination and no loss of muscle power. Cutaneous sensation is normal ; so also are the joint, muscle, and vibration sensations. The tendon reflexes are irritable ; the cutaneous reflexes in the majority of cases are readily elicited. The plantar responses are either flexor or absent (Williamson). As a general rule at some time in the course of the case there is disturbance in the bladder functions, usually in the direction of precipitate micturition, but sometimes definite incontinence. The special senses are normal ; in typical cases there is dilatation of the pupils. Speech is frequently affected, in that the patient stammers, but this is rather to be taken as an index of the psychical state. The skin is blanched ; sweating is common, and the cardiac action is hurried. The respiration-rate is also increased.

Psychical Symptoms.—The psychical symptoms are those which characterize an animal in a state of terror ; there is failure of concentration, defective apparent memory, and incapacity for any sustained mental effort. In other words the mental state is one of confusion, and this is so very definite in these cases that the condition may be referred to as ‘confusional dysthymia’ in consequence. The stammering which is so common a feature of these cases is referable to this confusion, ordered speech demanding a degree of mental clearness which is commonly absent in states of fear.* The mental confusion may be such as to militate against speech *in toto* and to bring about mutism.†

In the early phases of the condition the tremors, pallor, dilated pupils, and stammer give to an observer an irresistible impression of fear on the part of the patient, and the impression is confirmed by the

* In a paper published in the *Lancet* of 1919 on “The Instinct-distortion or War Neurosis”, the stammering in question was considered as possibly an associate of the other form of the terror-neurosis, in which the instinct to crouch and to avoid all noise in the atmosphere of fear is seen. It is, I think, possible that certain of the cases of stammering are to be attributed to this mechanism, but in the majority of cases the stammer is to be looked upon as an associate of the prevalent mental confusion.

† The normal association between coherent speech and emotional control is universally admitted, but a state of confusion sufficiently great to be associated with complete mutism is not so common. I remember the case of a medical student on the occasion of a *viva voce* examination in one of the subjects for his Final ; he was many minutes before his examiners, during the whole of which time he never uttered a word ; however simple the questions, the examiners could not overcome the confusion present.

patient; he is acutely frightened. In part the fear is maintained by the somatic manifestations themselves, and as the case progresses these manifestations become the chief factor at work in the persistence of the emotional content. But in the initial stages I do not think the emotional content can be altogether attributed to this factor alone; we must assume that during the period of emotional control, operative up to the time of the breakdown, there has been something of the nature of what may be called 'emotional retention', a condition of affairs which must be considered as occurring whenever, through emotional control, a strongly-felt emotional tone is dissociated from its normal conative aspect. The most effective way to relieve an emotional tone is the vigorous performance of the associated somatic movements; conversely, the non-association of such movements under such circumstances conduces to the absence of emotional relief and to the augmentation of the emotional content. If and when emotional control is reduced, the blocked-up emotion appears in consciousness and remains in consciousness until (1) relieved by kinetic behaviour; (2) emotional control is regained. It is of the greatest interest in this connexion to notice the circumstances in which the actual breakdown occurs; they fall into three groups:—

1. The association on the part of the patient with an exploding shell or bursting bomb at close quarters.
2. Invalidism on the part of the patient from any cause.
3. The withdrawal from the fighting line of the patient through rearrangement of his duties, leave, or demobilization.

When these three conditions are considered, it is seen that from the etiological standpoint they are in reality two only:—

1. Situations in which there is an absolute increase in the associated emotional content (exploding shell, bursting bomb, collapsing trench).

2. Those in which the absolute necessity of emotional control disappears through the removal of the patient from the fighting line, where such control has been operative.

To summarize these conditions we may say that, given we have the operation of emotional control in an individual (that is, essentially, given such an individual has been subjected to the emotion of fear and has suppressed the conative aspect of flight), then the somatic and psychical symptoms of the terror-neurosis become manifest whenever through an absolute increase in its intensity the emotion controlled becomes too powerful for that control, or whenever the control operative is lessened even in the absence of this sudden increase in intensity.

From the above statements we would expect to find symptoms of the terror-neurosis in every soldier who has been in the danger

zones, after his release from the Army, and as a matter of actual fact certain symptoms of this neurosis are encountered with extreme frequency in such men on their return to civilian life; but different men differ in this respect; the degree of control necessary to divorce emotion from conation varies individually, and the liability to the manifestation of obtrusive symptoms varies directly with the degree of emotional control that has been consciously exerted.

The Terror-Dream.—In the early phases of the disorder we have the somatic analogues of the conative aspect of the emotion which has been subjected to control and the consciousness of that emotional tone itself; the emotional control has for the time disappeared. Such patients are frightened, and they are not only frightened by day when they are awake, but especially are they frightened during their sleeping hours, hours in which even in health there is a diminution of emotional control associated with the concomitant limitation of consciousness. Given that, for any cause, there is an abnormal loss of emotional control, the emotion concerned is experienced in its greatest intensity during sleep, and in the disorder under discussion this phenomenon is manifested as the 'terror-dream'.

The clinical aspects of the dream will be discussed later, but the following facts in connection with the terror-dream may be mentioned here* as part of the symptomatology of the terror-neurosis.

1. In the vast majority of cases terror-dreams do not occur before the invaliding incident. Almost invariably the history given is that the patient slept well up to the time of the withdrawal from the fighting zone. There are occasional exceptions to this; but they are rare, and the resulting disorder is not severe.

2. In the initial phases of the established disorder, dramatized dreaming is exceptional; the patient drops off to sleep and immediately wakes up screaming and sweating in a state of frantic terror for which he can find no obvious cause; he is blanched, shaky, and clammy; the pupils are widely dilated; the mouth is open, and the breathing is laboured. These paroxysms occur several times during the night.

3. This phase is succeeded by one in which the fear is associated with specific dream incidents; at the climax of the dream the above symptoms are manifested.

4. As the condition progresses towards recovery the number of

* The name 'terror-dream' is to be preferred to 'battle-dream' or 'war-dream'; the actual dream incidents are of very slight importance compared with their emotional content. Many people suffer from terror-dreams who have never been brought into the sphere of fighting; on the other hand, many dreams of fighting and of war generally are not terror-dreams.

times that these crises occur in any one night diminishes, and this finally gives way to a condition in which he is not awakened during the night by these paroxysms, but in which, when he is disturbed from sleep, he wakes with a violent start 'on the defensive'.

From this stage onwards, in an uninterrupted case,* there is a cessation of dreaming altogether. We do not find dreaming, in other words, with a gradual withdrawal of the emotional content; we find a complete absence of apparent dreaming. In the course of time, long afterwards, dramatized dreaming may be resumed, and naturally enough many such dreams will be of the nature of the environment associated with the abolition of the responsible emotional control, but such dreams do not disturb the patient or affect the manner of his awakening; they are not terror-dreams, even although they may duplicate the incidents at one time associated with terror. It cannot be too strongly emphasized that the story of the dream by itself is nothing, from the point of view of clinical medicine at any rate; the only element of importance is the associated emotional content and its objective manifestations.

The subsidence of fear from the dreams is associated with the progress of the patient towards a cure, and naturally enough emotional control is regained during the hours of consciousness before it operates in the sleeping hours. In other words, a patient in the day may seem well enough, but unless and until he sleeps peacefully from the standpoint of an outside observer, and wakes naturally, he is not cured. Behaviour in the waking hours is not a definite criterion.

Course of the Terror-Neurosis.—It was mentioned above parenthetically that uninterrupted progression towards cure was rare in cases of the terror-neurosis; my own opinion is that such progression never in the strict sense of the word occurs. Such conditions may progress on one of two lines: (1) Improvement is associated with relapses; and (2) Improvement progresses up to a certain point, at which the patient tends to remain. Such cases may be described as the relapsing and the chronic types respectively.

1. In the former or relapsing type the patient improves more or less steadily and may for a time become a fairly useful member of the community in so far as his work is removed from the associations of the environment responsible for the breakdown; but sooner or later there is a set-back, and the symptoms recur—tremors, stammering, and terror-dreams. Even in the earlier periods of convalescence, however, the relapse symptoms are rarely, from an objective point of view, as severe as the original, and in the course of time such symptoms, when

* Which will be seen later to be exceptional.

they do occur, are less and less intense from this standpoint. But it may be said that no case of the terror neurosis progresses from inception to cure without the occurrence of relapses at one time or another.

It is a point of interest in this connexion to discuss the factor which is associated with improvement; this factor is emotional control. At the onset of their illness these patients are seriously defective in this control, but, in so far as they are conscious at all, such control is inevitably regained in the course of time, provided, of course, the patient is removed from the offending environment and realizes this. But of course for some considerable time the absolute control present remains defective, and quite slight environmental deficiencies are capable of inducing situations which demand a greater degree of control than the patient is able to give; the symptoms reappear or are aggravated as the case may be. And we must realize, I think, that for long periods after apparent cure, and possibly for the remainder of the patient's life, his emotional control for centrifugal emotional tones is never as efficient as it was, and so, whenever the environment is irritating or alarming the symptoms of the original disorder, in part or entirely, are liable to recur.

It must also be remembered that emotional-tone—conation phenomenon does not bear a strict cause-and-effect determination: the somatic attributes of an emotional tone in their performance are liable to be associated with that emotional tone in consciousness. During his improvement the tremors and tachycardia themselves tend to keep active the associated emotional tone, and anything that gives the patient a rapidly beating heart, or which is naturally associated with shakiness, is capable of initiating a relapse. Needless to say, the opportunities for the operation of this mechanism are many, and indeed, when we come to consider the intimate relationship between emotional tone and somatic symptoms, the potential richness of all environments in elements which are associated with the evocation of centrifugal emotional tones, and the essential fact that these patients are specifically deficient in their control of these emotional tones, the inevitability of relapses is no matter for surprise: what is surprising is that in so many cases the number of relapses is not greater than it is.

2. As regards the second or chronic type of progress, we have the special operation of one of the factors mentioned above. The cases especially referable to this group are those in which, as the general somatic symptoms subside, the symptoms associated with the heart persist and ultimately dominate the clinical picture. Such cases have been distinguished, unfortunately, by the specific title “Disorderly Action of the Heart” during the war, and the name is still being used by the Ministry of Pensions, and I think most physicians who were

in contact with functional nervous disorders during the war and after will agree with me as to the intractability of the condition so named.

Such cases are examples of the terror-neurosis in whom the other somatic manifestations have subsided, but in whom the tachycardia persists: there is persistence also of the terror-dreams in the majority of the cases.

The main factor at work in these cases is association of somatic manifestation with emotional tone. In order to assess the value of this association in this particular connexion, we must remember the entirely adventitious value, as far as its emotion-provoking content is concerned, of *any* cardiac abnormality to the majority of laymen; the patients in question are conscious of the rapid action of the heart; they appreciate the fact that in some way or another it is abnormal. This appreciation in many people is accompanied by dread*; they discuss it with their medical attendant or report it to the medical officer in charge of their case, and, no organic disease being found on physical examination, the condition is labelled "Disorderly Action of the Heart". This confirms the patient in his dread; he cannot be supposed to know the prognostic significance of the name, and he feels his symptoms as the outcome of a weak or diseased heart; a condition to most men synonymous with sudden death. In this way the emotional tone never has a chance of subsiding; equally the rapid action of the heart is maintained, the one by the other.

The intractability of D.A.H. cases is essentially associated with the fear, inherent in most men, specifically attached to any cardiac abnormality. It is a matter of common medical knowledge that, given a patient once has the idea implanted in him that certain symptoms he complains of are connected with the heart, actually or by name, the conviction in his mind that he has 'heart disease' is quite extraordinarily difficult to eradicate. It is this element that is so actively at work in the maintenance of these cases of the terror-neurosis, and it is most unfortunate that the specific name introducing the heart was ever applied to them.

Naturally and of course, different men have points of outlook as regards the deadliness of certain diseases, but almost all attach this significance to the heart. Given that a patient has a specific fear of any particular region of the body as regards its integrity, the occurrence of discomfort in that region with the terror-neurosis will tend to maintain the condition, and conduces to the formation of the memory-neurosis, but in the case of the heart we have a more or less inevitable

* It will be seen later that these chronic cases of the terror-neurosis are in reality "approach" stages towards the memory-neurosis, which ultimately develops out of them.

implication of dread in the disorder and therefore such maintenance is all the more common.

It was mentioned above that the terror-neurosis was manifested in two different forms, according as to whether the conative impulse to run away was fulfilled or the impulse to crouch. It was also mentioned that in the latter group we are dealing with cases of an intensity less than those which manifest symptoms of the former, and as a matter of fact crouching symptoms have a value little more than that of an indicator of the imminence of the major symptoms in the event of the environment remaining unaltered. The symptoms of the crouching group differ sharply from those of the flight group in that they show a marked tendency to be paroxysmal rather than continuous.

Clinically these cases are of no great importance. The usual history is that the patient has been invalided for some indifferent condition. During his treatment for this he complains of 'attacks', generally supervening as he is settling off to sleep. He becomes acutely conscious; he is terrified and finds he cannot move or speak. The attack has a variable duration, but is never very lengthy, the average being rather over a minute; he emerges from them sweating and confused.

In the majority of cases, on inquisition it is found that terrifying dreams have been experienced for some little time before the invaliding incident.

There are no objective signs on examination; the tendon reflexes in some cases are a little irritable, but there are no tremors, and apart from the actual attack there are no vasomotor changes and no mental confusion. The condition is hardly a disability at all; it has a positive value as an indicator of nervous instability and, as will be seen subsequently, it conforms to the other group of the terror-neurosis in its relationship to the mnemoneroses. Such 'crouching' symptoms are not at all uncommon in civil life, most people, and especially children, manifesting them from time to time. In such cases they are usually associated with terror-dreams or nightmares; they have the same significance in all these cases; the distortion in an instinctive activity of a centrifugal emotional tone from its appropriate conative associate during the fully waking hours.

THE ANGER-NEUROSIS.

The terror-neurosis in one of its forms is probably the most frequently occurring of the distortion-neuroses of the centrifugal order; it was mentioned above that the disgust—recoil instinctive

activity did not appear to be associated with a specific symptomatology of its own; that it acted rather in reinforcing the severity of the terror-neurosis. There is, however, a small group of cases which is very characteristic and which, while conforming in essentials to the terror-neurosis in so far as it is a manifestation of a centrifugal dysthymia, possesses a more or less specific symptomatology. The disorder in question arises in the instinctive activity anger—pugnacity, and may be called the ‘anger-neurosis’ or ‘anger-dysthymia.’

It has been mentioned above that the emotion of anger possesses a different value from that of fear and also of tenderness, in that it is ‘derived’; it arises characteristically when for any cause the conative activities of these emotional tones run the risk of becoming inoperative. In so far as the emotion in question is liable to attain maximum intensity at any time in such a setting; and that this maximum is capable of redevelopment in the same setting, anger may be looked upon as a centrifugal emotional tone from the standpoint of clinical medicine, but it must be emphasized that the setting in question is associated with a centripetal atmosphere, and in some respects the anger-neurosis may be looked upon as constituting a link between the centrifugal and the centripetal dysthymias.

As in all the dysthymias, we have the two aspects clinically: the somatic and the psychical.

Somatic Symptoms.—These are intermittent, and are manifested as paroxysms; for the most part they are referred to by the sufferers as ‘fits’. Just as the symptoms of the terror-neurosis are characterized by the somatic manifestations of flight in an ineffective form, so the somatic symptoms of the anger-neurosis ‘foreshadow’ the outward and visible signs of anger, only perhaps the similarity is a little more close. The patient behaves more or less normally for a time; she is suddenly seized with violent ‘shivering’. The body is held stiffly; the hands are either tightly clenched or are opened and closed alternately. The face for the most part is flushed; the eyes are widely opened and fixed. The paroxysm ends in furious weeping, followed by a sensation of exhaustion which is very characteristic.

There are certain points of interest about these symptoms. In the first place, like all the centrifugal dysthymias, there is no complaint made of any pain (in the later stages, as will be seen, pain becomes a prominent symptom in cases originating as centrifugal dysthymias; but in such stages we are not dealing with a dysthymia, but a mnemon-neurosis). The muscular symptoms are almost always described as ‘shivering’ or ‘violent trembling’, and the movements

differ markedly from the fine inconspicuous tremors of the terror-neurosis. The condition of the hands in most cases is one of tonic spasm, and during the stage of tremor the body as a whole is held rigidly. The flushing of the face again sharply contrasts with the pallor that is symptomatic of the terror-neurosis, and, of course, the uncontrolled crying at the end of the attack is not represented in the former neurosis.

Psychical Symptoms.—These are quite as definite as the somatic, and equally distinct from those of the terror-neurosis. During the actual attack there is confusion and incoherence, in the intervals there is very characteristic irritability and intolerance combined with general emotional instability; the patient breaking down and weeping easily. In the majority of cases the actual anger-repression is remarkably prominent in consciousness, and possibly in association with this such patients take every opportunity of distracting their attention that affords itself, social engagements, cinematograph exhibitions, theatres, and so forth being commonly utilized for this end.

The Anger-Dream.—The most characteristic feature of all, however, is the anger-dream, which is quite as specific as the terror-dream in the terror-neurosis.

For the most part these patients sleep badly in that they have difficulty in getting off to sleep. Once they are asleep they sleep well for the most part; the specific dream is never of the frequent occurrence that the terror-dream is. The dream is dramatized from the first, and as a rule follows one of two lines: either the patient herself is threatened or her children; in the words of one of these patients, "She wakes up fighting-mad and shouting". In the terror-dream the patient on waking up has, in the acute phases, the intensified somatic symptoms of his disorder; but in the anger-dream this does not always occur, the patient on regaining consciousness quickly dropping off to sleep again. In some cases, however, the dream does precipitate one of the attacks described above. But the essential feature of the dream is that the emotion subjected to control during the day appears in the dream in such intensity as to waken the patient, thereby conforming to the distortion-neurosis dreams.

Etiological Factors.—The anger-neurosis is not very common, and it is far more frequently met with among women than men. It affects patients as a rule in the fourth decade of life and in the early part of the fifth: it is commonest at and about the age of forty. As far as the female patients are concerned, the etiological factors at work have been, in my experience, remarkably constant, and have

been a combination of domestic worries. Such worries are very real and definite; they may be summed up under the following heads:—

Conjugal.—All the female patients that I have seen with this condition have been married women, and always there has been a strong element of dissatisfaction in their minds regarding their conjugal relations. It does not appear to matter very much as to the precise cause of their discontent; the essential fact being that such discontent is felt and is strongly resented. In certain cases the matter-of-fact way in which the husband takes what the wife considers should be invested with solicitation and romance is the source of annoyance; in others it is the rareness of sexual relations; in others again it is their frequency. In all it is the fact that the wife considers that she is not and has never been sufficiently appreciated and prized; the idea has been planted in her mind that she is merely ‘used’. The consequence is that there is resentment in accordance with the patient’s personal pride and finally definite anger; in accordance with the impossibility of effecting any alteration as regards the temperament of the husband, with the imminence of the menopause and the cessation of sexual life, there is added hopelessness; it is realized that openly-expressed anger will not effect any change; very often the element of personal pride militates against such open expression, and there is suppression of the emotion. It is of interest to notice that in most cases there has been a very real affection and respect between the husband and wife; often enough the latter will not give vent to her resentment owing to the fear of hurting her husband’s feelings.

Conditions of Domestic Service.—Most of the cases I have seen of this disorder have been in patients of good social status, but whose means necessitate a somewhat limited domestic establishment. The ideas of the patient and the means available to fulfil them are not in accord; there is resultant constant friction between her and her servants. It is, I think, hardly realized among the masculine element of modern Western society how potent for disaster the relations between mistress and servants may be in a household where financial considerations are urgent and where there is a specific social status to be maintained. In many cases the result is a crude class warfare, and in the present state of domestic service the mistress, to keep up appearances, has to subordinate her wishes to those of a class which she, rightly or wrongly, considers to be inferior. The result is, often enough, the formation of a perpetual atmosphere of anger which has to be restrained, or outbursts of temper for which penance subsequently has to be done. In many respects the present conditions of domestic service must be looked upon as a thoroughly dangerous element of modern social life, and in every case of the anger-neurosis

in women that I have as yet encountered this element has been conspicuous.

Congenital Determination.—It may reasonably be urged at this point that cases where unfortunate or dissatisfying conjugal relations are operative in conjunction with the worries of domestic service mentioned above are many, whereas cases of the anger-neurosis are not common even among functional nervous disorders. This is undoubtedly the case, and consideration of the two factors just described inevitably leads to the conclusion that only certain types of women would react in this manner to these elements: women whose ideas of their own importance are dominant in their consciousness,* the personal pride alluded to above. It is a matter of the greatest interest in this connexion to find that in every case of this form of distortion-neurosis that I have met with, there has been a history of definite insanity in the immediate ancestry; maternal or paternal in the majority of cases. Such patients must be considered as congenitally determined towards this form of functional nervous disease, although they are not in any way insane themselves; in certain of the cases I have seen, the intelligence and judgement have been well above the average. It is, in fact, just this combination of intellectual acuteness and personal pride with surroundings offensive to the one and subversive of the other that is so effective in the formation of the anger-neurosis. These patients are exceptionally sensitive to the indignity of their position, and it is possible that such sensitiveness is morbid in itself and an associate of the morbid inheritance. The element of insanity in the family history is of additional importance in the subsequent course of the disability.

DYSTHYMIAS ASSOCIATED WITH EMOTIONAL TONES OF THE CENTRIPETAL ORDER: THE NEUROSIS OF UNSATISFIED DESIRE.

The disorders now to be considered differ from the centrifugal distortion-neuroses in that their symptomatology is very much less sharply defined; this variance is especially to be seen in the somatic symptoms, but is also recognizable in the psychical.

Centripetal dysthymia is developed in the atmosphere in which the emotional tone of affection in its different intensities is dominant, and it is necessary to discuss quite briefly the implications involved in this particular emotional tone: unlike the tones already dealt with, fear, disgust, and anger, affection is very variable in its manifestations

* It must be realized that such dominant ideas of self-importance are not the same as the centripetal orientation and ego-isolation that characterizes hysterical people: needless to say, the hysterical type of patient never suffers from the anger-neurosis, or, indeed, any of the dysthymias.

and exceedingly wide in its scope. In the human it is still further complicated by the operation of memory, for it is an emotional tone which differs from those of the centrifugal order in that its maximum intensity is not only compatible with memory but is specifically characterized by it. It will be remembered that in a previous discussion the maintenance of the emotion of parental affection in the human was associated with the fact that even in non-human animals psychical dissociation does not occur in the atmosphere of a centripetal emotional tone, and that in the human the extension of the associational powers and their intimate relationships to almost every activity served for the maintenance of the emotional tone and the prevention of familiarity.

Affection in its maximum intensity is to be seen in the love of a parent for the offspring, and the conative activities of the emotion in this maximum intensity, of the emotion in this restricted sense, are diverse and often enough widely separated from each other in their somatic manifestations; comprising activities which vary from straightforward hunting to clerical work at a desk; provision of food and shelter; protection; training; playing, and so forth.

The emotion of affection for offspring has developed out of the primordial protoplasmic attribute of reproduction; out of this attribute or protoplasmic property other emotional tones and conative activities have risen; they are related to the affection emotion, and as far as the human is concerned they are to be taken as integral associates of it; functional nervous disorders in their atmosphere are of the centripetal group, and from the standpoint of clinical medicine they all fall into line with the affection emotion and disorders developed in its sphere. Such are: The emotional tone and somatic activity associated with the production of offspring (the sexual instinct, in other words); tones and activities which facilitate, or which may be considered as facilitating, the acquisition of elements conducive to successful progeny; an enormous field, the emotional gateway to which may be summarized as desire, consciously experienced as such. In actual practice, 'want' or 'desire' may be taken as the keynote of the centripetal dysthymias, and such want may be developed in an atmosphere of sex (in the usual acceptance of the word), of progeny, or of objects which have no apparent or surface relation to either sex or progeny.

Freud and his followers have laid the greatest stress on an extended application of the word 'sex': whatever opinion may be expressed as to the methods prevalent in their practice, there is, I think, no doubt as to the illogicality of their nomenclature. It is quite unjustifiable to take one attribute of a great and fundamental instinctive activity, and use it to label a host of other attributes of

the same activity; the desire for a Fourth Dynasty papyrus and ordinary sexual desire both undoubtedly belong to one great group of emotional tones as far as their development and remote origin are concerned, but it is unscientific and a misuse of language to refer both to sexual activity, just as it would be unscientific to refer both to archæology; or just as it would be inaccurate to classify all members of the mammalia as ungulates because the ungulates are undoubtedly mammals.*

The centripetal dysthymias, then, are developed in the atmosphere of desire in the broad sense of the word; they are manifested when the emotional tone is unrelieved by the appropriate somatic activities directed towards the acquisition of the desired object, and they may be called the 'neuroses of unsatisfied desire'.†

From the above brief discussion it will be seen that the centripetal emotional tones differ from the centrifugal, among other things, in that their conative aspects, as manifested by somatic activity in the broadest sense, shows a very much greater variation among themselves; there is a conspicuous lack of specificity in this aspect of these tones. This difference is to be seen clinically in the disorders arising in the sphere of the centripetal emotional tones; there is a correspondingly great variation in their somatic symptomatology; the characteristic features are to be found for the most part among the psychical symptoms. A sufficiently careful examination of the patient will reveal the fact that there has been, and still is, a forcible

* It may, of course, be represented that the Freudian school in classifying desires and wants as sexual are employing this term to denote what in the present context has been called emotional tones of the centripetal order. The objection then is that a word with a perfectly definite and well-known implication is taken to include activities not generally recognized as falling within its sphere; at the same time still using the same word in its restricted sense. And it is difficult to avoid the conclusion, in reading over the published works of Freud and his followers, that however 'non-sexual' an implication they theoretically attribute to the word 'sex', in actual practice it is used in the generally accepted sense. Certainly there need be very little in a name as a name; there would, strictly, be no objection to labelling the mammalia as ungulata, provided some other name is given to what have hitherto been known as ungulata in the original sense; but to call the mammalia ungulata and at the same time keep the word in its old meaning is inaccurate and unscientific, and all the more so if the greatest stress is laid on the predominant position of ungulata in the original sense among ungulata in the new.

† A point of interest arises here in relation to the success or otherwise of the somatic movements in attaining the object of the associated emotional tone; safety in the case of fear, personal triumph in that of anger, and the object or situation wanted in the case of the centripetal tones. In man, as in the lower animals, in addition to the absence of impediment to the appropriate body activity, there must be an element of success as far as the object to be gained is concerned. At the same time, among human beings, for the most complete relief of the centripetal emotional tones the desired object must be gained by the individual himself through the proper somatic associations.

emotional control, divorcing an emotional tone from the somatic activity appropriate to the desired end ; the emotion concerned tends to appear in conditions of diminished consciousness, and such body symptoms as there may be represent in an amorphous manner the effective activities that have been kept in abeyance. But in the great majority of these cases as encountered clinically, objective somatic symptoms are absent.

As a type illustration of the centripetal dysthymias we may consider the cases which arise in the atmosphere of sex.* Typical sex dysthymia is most characteristically to be seen in men ; its analogue in women is to be seen rather in the desire for children, although true sex dysthymia is to be recognized in them also. In men the condition is associated with an absence of healthy and legitimate sexual intercourse in subjects whose dispositions are strongly and naturally directed towards it. For the most part the enforced celibacy is imposed either by expediency or lack of opportunity. The cardinal factors of the condition are : desire for normal sexual life ; and inability to gratify this want.

The course of the disorder is as follows : There is a stage in which the patient appears to find few, if any, interests apart from his work ; he works hard and, as a rule, he works well, with the idea before him of gaining a position in which he could support a wife and family. Interests apart from his work are put on one side ; when engaged upon they are performed perfunctorily.

In the course of time there is a gradual alteration of character, the patient becoming solitary and introspective, and with this alteration goes an acute perception on the part of the patient of this change : characteristically there is an over-compensation in the direction of high spirits. This perception of his own alteration persists throughout the whole of the case and is very characteristic.

With the alteration thus described is associated later irritability. Frequently at this stage there is mental unrest, and an occupation which was interesting and which still interests to a certain extent is found to be a source of this restlessness ; as soon as the patient

* I feel some reluctance in taking this particular form of the centripetal dysthymias for descriptive purposes owing to the great and, to my mind, mistaken emphasis that has been laid on sex as an essential factor in most, if not all, of the neuroses, and the possibility in consequence of it being thought that I subscribe to this view in taking the sex dysthymia as a type of the centripetal distortion-neuroses. In order to forestall criticism I may say that the neurosis here described is only taken for this purpose on account of the definiteness of certain of the psychical symptoms and the tragic importance it may bear for the patient ; not because I think it to be a common form of this group. The rôle of sex to functional nervous disorders in general will be discussed later ; that it has a positive rôle in these disorders no one, I think, will deny ; it is the dominance of such a rôle in this connexion that is so open to criticism.

begins any work he is anxious to get away from it, yet he is unhappy when he is away from it. At this stage he is only at ease when he is by himself, and any association with others is a source of mental strain.

Generally during this period he sleeps well, but he will quite frankly tell the examiner that he is subject to sex-dreams more frequently than formerly; such dreams always being associated with seminal losses.

The patient in this stage is talkative to the point of garrulosity; the pulse may be moderately quickened and the pupils are dilated. Otherwise there are no objective signs. The diagnostic features at this period are the combination of intelligence, general high spirits, and talkativeness, with accounts of intense irritability and depression and frequent sex-dreams, occurring in patients towards the age of forty or over whose lives have been spent in an atmosphere of enforced celibacy. There is a definite risk in such cases of suicide.

The second stage of the condition belongs to the group of neuroses yet to be considered, the memory-neuroses, but for the sake of completion it may also be mentioned here. The first stage, as has been said, is associated with a curious and characteristic appreciation on the part of the patient of the abnormality of his condition: he knows that he has altered and has become solitary in his habits: he is first unhappy and then, inevitably, he worries over his state and brings the element of dread into his life. He dreads above all things the possibility of going insane. The intrusion of dread removes the case from the dysthymic to the mnemonerotie group of functional nervous disorders, and it may be said here that this is what happens in all the dysthymias that remain untreated; they all, centripetal and centrifugal, gravitate to the mnemonerotie group. The great characteristic of the memory-neuroses will be found later to be the existence of pain, and in the type under consideration sooner or later pain is experienced, and the patient develops the bizarre pains and neuralgias so familiar to the practising physician as 'neurasthenic'. With the development of the second stage the sex-dreams tend to be replaced by those characteristic of the mnemonerotic, 'worry-dreams', in which the patient does not necessarily awake, but which he remembers fretfully and unhappily in the morning.

Now, as far as the first or dysthymic phase of the above condition is concerned, we see that the keynote is the introspectiveness, which becomes apparent early in the disorder. The patient from the outset is critical of himself as regards his relation to his environment; he is watchful and concentrated on his health. This introspectiveness is the analogue of the confusion which characterizes the centrifugal distortion-neuroses, and the centripetal dysthymias may also be called

'introspective', for such introspection is absolutely the rule in all dysthymias of the centripetal emotional tones.

A fairly common form of the centripetal distortion-neurosis occurring in women is to be found between the ages of thirty and forty in childless subjects. It occurs in women who are fond of children and who are anxious to have them, but who, for various causes, have never had their wishes realized and who are faced with the fact that the possibility of realizing them is rapidly passing away. It is especially prone to occur in women whose legitimate hopes in this direction have been abruptly dissipated, as, for example, in the case of the death of a lover or the breaking of an engagement.

Here again the symptoms are almost entirely subjective. There is complaint of intense and unaccountable weakness; exhaustion after slight exertion; paroxysms of angry irritability, and severe sleeplessness. The dreams when sleep is obtained may be specifically sexual, but more often they conform to the general type of centripetal dysthymic dreams and consist of endless repetitions of situations in which the patient never attains a desired object, and in which she continuously wakes up, wretched and unhappy.

The dream in question is interesting, and in mild degrees of intensity has been experienced by the majority of mankind; the dreamer is endeavouring to run, the feet being glued to the ground; or to catch some object which constantly evades him, or to perform some impossible task against time. In a centripetal dysthymia such dreams always end by waking the patient, and, in typical cases, awaking is associated with weeping.

In this form of dysthymia also is the characteristic introspection to be recognized, and the realization on the part of the patient of the altered state of her mental outlook.

In a condition shortly to be described mention will be made of what may be called "centrifugal determination of the ego", a state which is liable to develop when a child in the environment of determination gains considerable emotional control, but is exposed unduly to worry and responsibility; an atmosphere in which he is made to realize at an early age the distresses and pains which are encountered in association with mistakes, however reasonable such errors appear to him to be at the time. In the environment of adjustment the centrifugally determined ego is manifested by conspicuous lack of self-confidence and by its accompaniment, a tendency to worry ceaselessly over future possibilities.

Such people are not peculiar in their reactions to the centrifugal distortion-neuroses, but they do appear to be particularly prone to the centripetal forms. In these types there is more constant fretting over the non-realization of any desire strongly experienced; there

is an excessive reaction in the course of time in the form of a centripetal dysthymia.

The symptom especially to the fore in such cases is depression, and the degree of this may be profound. The characteristic introspectiveness is present; such patients are extremely detailed in their analyses of their troubles, and are generally accurate in assigning their apparent causes. In the course of time, dread of suicide or of becoming insane removes the disorder from the dysthymic to the mnemonerotie group.

The depression tends to occur in periods, but even in the intervals there is worry and morbid self-analysis. Such patients are liable to be emotional and especially to be self-sympathetic; this morbid self-sympathy is prominent in the attacks of depression, and is conducive to weeping at these times; the patients often enough saying that their tears are for themselves. As the case progresses there is lessened power of concentration, and the patient becomes abstracted and detached. Sleep in these cases is disturbed, and there are characteristic dreams of unsatisfied desire.

Centripetal dysthymias occurring in centrifugally determined people conform to the dysthymia in question, but are especially associated with profound depression. Inevitably in the course of time such cases also, if untreated, pass from the dysthymic into the mnemonerotie group of functional nervous disorders, longing being replaced by dread.

Indeterminate subjective symptoms, with a tendency towards dreams of unsatisfied desire of sufficient intensity to wake the patient, associated with an introspectiveness that is unusual for the patient and an acute realization of this mental change, are the chief characteristics of the centripetal distortion-neuroses. Insomnia is a frequent symptom and one which is of importance in its potentiality for the formation of dread; the introduction of this element of dread removes the disorder into the mnemonerotie group. All the distortion-neuroses tend to pass into the worry-, dread-, or memory-neurosis, but the centripetal varieties are especially liable to this termination.

The actual atmospheres in which the centripetal dysthymias are liable to develop are, as indicated above, many; all are characterized by longing for some object or situation the attainment of which is becoming increasingly doubtful.

An interesting and a very important aspect of the centripetal dysthymias is their relation to mental alienation. In the anger-neurosis it was seen that a history of insanity in the immediate ancestry was the rule; in the centripetal dysthymias also such a history is common, but what is very much more common is a history

of nervous instability in one or other of the parents, not necessarily insanity. In the terror-neurosis, as met with in the war, no such evidence of congenital determination was forthcoming as far as the bulk of the cases was concerned; in the sex-dysthymia as described above this factor is to be recognized as important. In the centripetal dysthymias other than the obtrusively sexual such an element is still more common; congenital determination must be looked upon as an important associated factor in their development, and as a probable associated factor in the formation of all the centripetal distortion-neuroses. The element of insanity in the family history makes the subsequent development of a memory-neurosis all the more likely.

DYSTHYMIC STATES IN HYPERTHYMIC PEOPLE.

It was mentioned above that the functional nervous disorders of the dysthymic type only became possible with the appearance of emotional control, and we have seen that the hysterias are associated with an atmosphere one attribute of which is lack of emotional control as a whole. Between the emotional uncontrol characteristically associated with psychical dissociation and the control as met with in 'normal' people there is a range of emotional activity the control of which falls short of the normal and which we have already referred to as hyperthymic.

The behaviour of hysterical people when not specifically hysterical, that is, when not excited in connexion with a specific dissociation mechanism, is hyperthymic. Again, it is conceivable, but not likely, that children, developing in atmospheres of emotional uncontrol conducive to hysterical behaviour in the environment of adjustment, may never encounter primary specific incidents in that of determination; the behaviour of such children in their subsequent environment is also of the hyperthymic variety. In addition, however, to these somewhat specialized types, hyperthymia is met with in individuals whose emotional control is less than the normal, but greater than that which is compatible with the manifestation of clinical hysterical symptoms; in some of these the control may just fall short of the normal; in others it may just, and only just, emerge from the uncontrol that is liable to be accompanied with psychical dissociation and clinical hysteria. In other words, hyperthymia is of purely relative significance: the hyperthymic state, though not hysterical in itself, is not incompatible with hysteria and is not incompatible with considerable emotional control. It is incompatible with normal emotional control.

It is to be expected, therefore, that functional nervous disorders,

for the evolution of which emotional control is a necessary factor, will show variations according as to whether we are or are not dealing with hyperthymic people. Needless to say, such disorders are not to be found among hysterical people.

The dysthymias as already considered are those occurring in normally-controlled people, and it is necessary to discuss shortly their modifications in hyperthymia.

In general it may be said that in such cases :—

1. Signs of the emotion concerned are to be met with before the invaliding event. For the most part these signs are encountered during sleep; in other words, the patients under consideration have the characteristic dreams before their breakdown, in sharp contrast to what occurs in normally-controlled people. A history, for example, of terror-dreams before invalidation would render it probable that the patient is hyperthymic.

2. The objective or somatic symptoms of the developed neurosis are either absent or of slight intensity, and in the latter event they are usually intermittent.

3. The psychical symptoms are accompanied with great emotionalism; there is less true confusion and less true introspectiveness. The patients are less constantly awakened by their dreams; they complain of them in the morning. The dreams are dramatized from the outset.

4. In properly treated cases the emotional content of the condition rapidly subsides.

From a consideration of (2) and (3) it will be seen that, in the case of the terror-neurosis, hyperthymic patients give the impression of being very much less incapacitated than normally-controlled people with the same disorder, although the accounts of the patients themselves are more striking. In the case of the centripetal dysthymias, hyperthymic people show an apparent exaggeration of what obtains in normally-controlled patients, for in these disorders the key symptoms are the psychical. The anger-neurosis does not tend to occur in hyperthymic people, as they are more liable to break down with symptoms referable to the emotion out of which anger would otherwise have developed.*

It has been seen in the cases of the 'normal' dysthymias that

* It might be suggested that the anger-neurosis as already described is in fact a distortion-neurosis in hyperthymic people, and the constancy of the element of congenital determination might be taken to support this view. But for its formation a fairly considerable degree of emotional control would appear to be required, and it is probable that the outbursts of undisguised passionateness that affect emotionally unstable subjects represent the anger dysthymia in hyperthymia, but such passionateness cannot be considered a functional nervous disorder.

the course in all cases is towards that group of the sympathetic neuroses next to be considered, the mnemoneruses, and that the transition from the one to the other is associated with the appearance of dread. Such dread as far as the dysthymias are concerned almost always develops in the sphere of the patient's own ideas of his health and prospects of cure; and the completed history of these disorders shows a demarcation into two well-marked stages, the first or dysthymic and the second or mnemonerotic. In view of the characteristic introspectiveness of the centripetal dysthymias and confusion of the centrifugal, it is to be expected that the first stage is longer in the latter than in the former, and this is supported by clinical observation. The centripetal dysthymic patient begins to worry over the possibility of his being incurable sooner than the centrifugal; the anger-neurosis conforms to the centripetal group in this respect. In hyperthymic people the dysthymic stage is shorter than in the case of the corresponding normal dysthymia, worry and dread making their appearance relatively much earlier.

THE SCHIZOPHRENIC REACTION IN THE DYSTHYMIAS.

A short description of this reaction has been given in the account of the hysterias, and it was pointed out that hysterical people did not characteristically manifest it. A positive reaction indicates the interpolation of the individuality between authority and obedience, such interpolation being followed by a movement directly at variance to the one demanded. It is a reaction indicative of a non-conformity, relative, of course, to the dictates of the herd. There is an absence of the prompt obedience seen in hysterical people; the command received being subjected subconsciously to a process resembling criticism before execution, and in the case of a positive reaction the criticism is adverse.

The dysthymias are themselves manifestations of maladaptation to the herd instinct, and dysthymic patients characteristically show the positive schizophrenic reaction. In the majority of cases a 3/3 reaction is obtained.*

SUMMARY.

1. The development of emotional control in mankind is associated with the appearance of what may be called 'progressive' or 'sympathetic' functional nervous disorders.

* Positive schizophrenic reactions are, of course, to be obtained in normal people, and the implication then is that such people are liable to the development of the disorder in the event of the environment of adjustment becoming hostile. The reaction is in no way a sign of dysthymia; both are developed out of the same atmosphere.

2. Emotional tones are normally associated with more or less specific somatic manifestations, the energetic performance of which is accompanied with subsidence of the emotional tone concerned.

3. In the event of a strongly-experienced emotional tone being divorced from its associated somatic aspect through the operation of emotional control, functional nervous disorders of the progressive variety are liable to develop. Such disorders may be referred to as 'instinct-distortion' neuroses; or, more briefly, 'distortion' neuroses or 'dysthymias'.

4. These dysthymias fall into two groups, in accordance with the clinical classification of the emotions already discussed: centrifugal and centripetal. The derived emotional tone of anger is associated with dysthymic symptoms which show points of resemblance to both these groups, but is best considered with the former.

5. The symptomatology of the dysthymias is to be considered from two aspects, the somatic and the psychical. Somatic symptoms are prominent in the centrifugal dysthymias, and conform in an abortive manner to the normal somatic manifestations of the emotion distorted. Psychical symptoms predominate in the centripetal group over the somatic.

6. The psychical aspect of these disorders is the more characteristic. In the centrifugal there is confusion and in the centripetal introspectiveness. The two groups may be called the confusional and introspective dysthymias respectively, in consequence.

7. The emotion that has been subjected to distortion is always to be recognized in the symptomatology of the disorder, invariably during sleep, and, generally, in the hours of consciousness also in the early phases. In this way the centrifugal dysthymias are associated with the terror-dream, the centripetal with dreams of unsatisfied desire, and the anger dysthymia with anger-dreams.

8. Such dysthymic dreams, to have diagnostic significance, must be associated with waking of the patient through the intensity of their emotional content.

9. The centripetal dysthymias are more comprehensive and less definite in their manifestations than either the centrifugal or the anger dysthymias, and are developed in association with strongly-felt and ungratified desire of all kinds. The most defined of this group is that arising around sexual desire in the usual acceptance of the term, but it is not the most common.

10. The dysthymias tend to develop into the mnemoneurotic group of sympathetic functional nervous disorders if untreated. The transition is marked by the appearance of the element of dread, usually in connexion with the patient's own ideas of his own curability. Such

dread appears more rapidly and is more inevitable in the cases of the centripetal and anger dysthymias.

11. Dysthymias are possible in hyperthymic people, and are characterized by diminution in intensity of the somatic symptoms and subjective increase in intensity of the psychical; the mnemo-neurotic stage is reached more quickly than in normal dysthymias.

12. Dysthymic patients characteristically show the schizophrenic reaction.

CHAPTER XI.

THE MNEMONEUROSES.

THE memory- or mnemo-neuroses, like the dysthymias, are members of the sympathetic group of functional nervous disorders; they resemble in some respects certain of the dysthymias, and form their end-stages in the majority of cases. The name has been applied to them because conscious memory, in the limited sense of the term, plays a more important part in their formation than it does in either hysteria or the dysthymias. For the most part the rôle of memory in the genesis of the memory-neuroses is direct, thereby differing from what has been seen to obtain in the case of hysteria; it will be seen, however, that what may be called 'indirect' memory is also associated with a certain very characteristic minority. The mnemoneuoses are integrally associated with the memory of past experiences in the life of the individual; the memory may be of experiences as such (direct), or may be of associations in the sphere of such experiences (indirect); in the latter event there is no dissociation mechanism in the true sense of the words—in the sense that characterizes hysterical behaviour. The neuroses in question form a large and complex group, and the majority of functional nervous disorders met with in civil life are of this order.

THE SIMPLE OR DIRECT FORMS OF THE MEMORY-NEUROSIS.

Centrifugal Orientation of the Ego.—In the consideration of hysteria, it was pointed out that in animals other than man such memory as is existent is to be found among associations developed in the atmosphere of a centripetal emotional tone; the operation of psychical dissociation in that of the centrifugal tones expressly militating against pictorial memorization. The conditions in which the human being has evolved have also been associated with the evolution of increased association potentiality, emotional control, and speech, and the atmosphere associated with these factors is also associated with the possibility of memorization of associations developed in centrifugal tones as well; *pari passu* with the formation of this atmosphere is the diminution of the operation of psychical

dissociation. The activity of psychical dissociation, as we have seen, conduces to the predominance in conscious memory of centripetally determined associations (associational dispositions activated in the atmosphere of a centripetal emotional tone); the conscious ego of such an individual is centripetally determined; we have concomitant ego-fixation and ego-isolation. The lessening of the activity of the process of psychical dissociation is accompanied with a corresponding diminution in the intensity of this centripetal orientation and its associates; we have also the potentiality of memorization in the sphere of centrifugal emotional tones. Such a state of affairs, in other words, renders centrifugal determination of the ego a possibility: though necessarily, in that psychical association in the sphere of centripetal tones is not abolished as in the case of centrifugal tones in the atmosphere of psychical dissociation, we do not obtain the same degree of ego-fixation and ego-isolation.

Centrifugal determination of the ego is not only a possibility in the condition of affairs developed along with emotional control; it is of frequent occurrence, and its intensity varies directly with the degree of emotional control present. It is not an inevitable concomitant of such control, however, although I think it can be said that an increase of the centrifugally activated dispositions is. What is inevitable with the acquisition of emotional control is lessening of the intensity of centripetal ego-determination.

In the case of centripetal orientation of the ego, it must be remembered that the psychical dissociation operative directly militates against centrifugal associations other than somatic being formed, whereas the activity of emotional control, rendering such formation possible, in no way prevents the formation of centripetal associations: the development of such control is rarely, if ever, associated with centrifugal determination of the ego of the same intensity as is seen in the case of the centripetal determination in the atmosphere of psychical dissociation and defective emotional control. The normal condition of affairs would appear to be a fairly evenly balanced ego-determination with a bias to the centripetal.

Environmental Factors.—Centrifugal determination of the ego with its associate, the retention in memory of incidents associated with a centrifugal emotional tone, is an important factor in the formation of the memory-neuroses. It is not, however, the only one, for many people with the centrifugal ego-associations dominating the centripetal do not break down into these disorders. The environment would appear to play as great a part in the production of the memory-neuroses as it has been found to do in the case of hysteria.

As in the case of hysteria so also in this connexion, the environment must be considered from the standpoint of determination and that of adjustment.

Environment of Determination.—In the case of hysteria it has been seen that the environment of determination errs in that it is a wrongful presentation to the child of that of adjustment as generally obtaining in the present state of society; the emotionalism of childhood is insufficiently directed, and the child himself is shielded from the proper consequences of his behaviour when such behaviour departs from the accepted standards of rightness as applied to other children. He is specially treated with a view to safeguard him from distress of all kinds. Distress is inevitably encountered in the general environment of adjustment, and the situations characterized by it demand definite and appropriate reactions on the individual's part. Hysterical people cannot supply such reactions, and they counter them in a more or less specific manner which has as one of its associates the alteration of the environment responsible for the demand. In so far as hysterical behaviour is permitted to progress without impediment the peace of mind of the patient is preserved, and in many respects, from his point of view, this is a perfectly satisfactory state of affairs.

In most cases, however, the environment of determination is very different, and the child is subjected to drastic discipline with a view to establishing all the more perfect emotional control. Discipline in childhood is necessary and salutary in the present condition of society, but it cannot be too strongly emphasized that over-repression of a child, too inevitable an association of the crime with the punishment, is every whit as potentially disastrous as are the elements concerned in the perpetuation of emotional uncontrol and hysterical behaviour. In some respects, in fact, they are more so, for hysterical behaviour certainly gives mental peace to the individual, whereas that which is liable to develop round the centrifugally orientated ego is utterly hostile to his happiness. Hysterical behaviour, as has been seen, is essentially logical as far as the specific case in which it is manifested is concerned; in the case of the mnemoneuroses, a fundamental feature is the subjective realization of the impossibility of finding such logical behaviour. In the one case we have appropriate behaviour divorced from conscious memory, in the other there is conscious memory and the absence of any such appropriate behaviour.

The environment of determination prepares the way for the development of a mnemoneurosis in so far as it is associated with centrifugal determination of the ego, and it is operative to this end by too rigid a suppression of emotionalism and by too great a content

of incidents associated with a centrifugal emotional tone; the child is made to realize at a very early age the difficulties of life, and he takes himself seriously. In the discussion of the formation of emotional control it was pointed out that public-school life played an exceedingly important and, in the majority of cases, a most valuable part, but it is to be feared that the modern tendency of sending little boys away from their homes to school may be fraught with danger in this respect: the responsibilities of their school life are liable to dominate their joy in living, and of course these responsibilities are enveloped in an atmosphere of punishment. In accordance with the inevitability of such punishment and the indiscriminateness of its type, the child is made to realize that many of his desires (and desires that are perfectly natural to his age) are potentially disastrous.

The sending of children at too early an age to the big schools is one of the factors which predispose to the centrifugal determination of the ego; another is the sending of children to preparatory schools appropriate as far as their age is concerned, but where discipline is disproportionately severe in relation to age. Intelligent children, who are being correctly brought up at home, on going to such schools run the risk of having their attainments assessed too highly in the first instance and of severe punishment in the event of their failure. Often enough at this stage the home atmosphere reinforces the falsity of the environment, the necessity of their succeeding at school being emphasized at home.

School life in these cases runs the risk of destroying the child's self-confidence, and this, briefly, may be taken as the guiding line in the construction of the centrifugally-determined ego.

Another, but more limited, class of cases is associated with the undue perpetuation of the home atmosphere; children, when grown, instead of taking up their lives for themselves and living as men with men, continuing to live at home as children with their parents. In the course of time realization of their limitation of outlook is enforced upon them, and is correspondingly subversive of their self-confidence. In the majority of such cases financial considerations are non-operative; but in the event of such people having to fend for themselves later, they are peculiarly liable to the memory-neuroses in virtue of their defective self-confidence.

As regards the environment of determination, then, it may be said that centrifugal determination of the ego develops in the inverse ratio to the self-confidence formed, and that deficient self-confidence is liable to arise in the event of children being deprived at too early an age of the legitimate childish pleasures of their homes; of their being confronted at such an age with situations loaded with fear-

evoking incidents; of their being made to take themselves seriously at an age when such an attitude is wrong. The undue persistence of the shielded home life also lessens self-confidence for the environment of adjustment when ultimately experienced. In all cases the emotional-control development may be considerable.

Environment of Adjustment.—Individuals whose egos have been centrifugally determined in the environment of determination are potential victims of the memory-neuroses in that of adjustment. They do not necessarily break down, for much depends on the environment of adjustment, which in this case has a rather more specific value than in the case of hysteria.

In the event of an individual whose ego has been centrifugally determined encountering an environment of adjustment in which he is removed from having to depend upon his own exertions and abilities for his welfare, there is less likelihood of a memory-neurosis arising: such an environment of adjustment may be called 'proper' to the specific environment of determination out of which the centrifugal ego has developed. The individual in question may be stigmatized as 'fussy' or 'worrying', but in such an environment of adjustment he is least likely to break down into a functional nervous disorder of this group.* As a matter of fact, often enough in such cases the centrifugal ego of the environment of determination is over-compensated in that of adjustment, and the result is aggressiveness. At the same time, of course, such an environment of adjustment does not necessarily prevent the development of a mnemonenrosis; all that can be said of it is that it affords the best chance of escape to people whose egos have been centrifugally determined.

Dread.—As a rule, however, people whose egos are centrifugally determined are less fortunately placed; they have to work for their living and to work hard, and often enough the saving grace of interest in their work is absent. Such men take themselves seriously; their memories are stored with examples of their own mistakes and of the inevitability of the consequent disasters. There is defective self-confidence, and its concomitant, worry. Out of this atmosphere is developed *dread*, and the combination of a centrifugally determined ego and dread is followed by the mnemonenrosis. Men with their egos determined in this way are especially prone to the incidence of dread; indeed, unless the environment of adjustment be exceptionally easy, dread of some sort is very nearly inevitable in the present state of society.

Such dread may be financial; it may centre round the future of dependents. There may be dread of illness, and in particular of

* Worry may be taken as an essential manifestation of defective self-confidence.

certain illnesses. There may be dread of punishment. In the event of his being ill, there may be dread as to the result of that illness; and this is responsible for some of the most characteristic cases of the mnemonerosis.* The dread that is liable to arise in the atmosphere of an illness in existence at the time is of great interest; in the majority of cases it is dread of incurability, and the functional symptoms that are liable to develop upon any protracted and painful illness are primarily of the mnemonerotic order.† By the terms of the definition, such superadded functional symptoms cannot be called a functional nervous disorder; they should really be considered as an extension of the symptomatology of the organic disease present.

In addition to functional symptoms superadded upon organic disease, the effect of dread is to be seen in its intrusion into a functional nervous disorder already existent, and the functional disorders especially liable to such intrusion are the dysthymias. A consideration of the principles of hysteria and the hysterical type as already described shows that such are not the disorders out of which dread is likely to arise; but with the dysthymias the reverse holds; in such conditions the birth of dread is merely a question of time. In the majority of cases the dread is concerned with the possibility of impending insanity; any condition in which such a possibility is presented to the patient has an equal potentiality in this respect.

In the centrifugal dysthymias, as already has been seen, the mental state is one of confusion, and the element of dread in relation to insanity is of unlikely occurrence. In addition, there are in these states obtrusive somatic symptoms which satisfy the patient as to the objective nature of his disability. In the paroxysmal dysthymias, however—the anger-neurosis and the centripetal distortion-neuroses—objective symptoms are not at all conspicuous, and instead of confusion we have an acutely analytical state of mind which predisposes to speculation as to the future. In the anger-neurosis there is often enough a family history of insanity, or of what the patient takes to

*It must be emphasized that the dread referred to above is entirely distinct, from the clinical point of view, from the hysterical phobias already described and the important group of 'phobias' to be discussed shortly. The dread here mentioned is perfectly natural in the present state of society, and is intelligible to every one; such dread occurs to every one more or less at some time or another. It only becomes operative in the development of a functional nervous disorder when it affects individuals whose egos are centrifugally determined.

† In the later stages, especially if there be much pain, the patient is liable to become hyperthymic, the emotional control lessening, and the combination of mnemonerotic symptoms in an atmosphere of hyperthymia is characteristic of many prolonged and painful organic disorders.

be indicative of insanity ; the dread of becoming insane is prominent in his mind from an early stage. Such conditions pass from the dysthymic to the mnemoneurotic stage with comparative rapidity, and, in that there is no gross or demonstrable pathological lesion, the second stage is a true functional nervous disorder. As a matter of fact, the anger-neurosis and the centripetal dysthymias may be looked upon as prodromal phases of the mnemoneurosis ; such patients only coming for treatment when the second stage is established ; but there is no inevitability in the sequence, and if the patient be properly treated in the first instance the onset of the mnemoneurosis may be rendered unlikely.

'Completed Dread'.—A state of affairs which is by no means uncommon in clinical practice is determined by what may perhaps be called 'completed dread'. This is usually seen in women who, in the fourth decade, begin to dread the possibility of childlessness ; the onset of the menopause completes the dread. The condition in these cases often enough begins as a centrifugal dysthymia in an atmosphere of a disappointed love affair, the death of a prospective husband, or the breaking of an engagement. An interesting case of this type was presented to me a short time ago ; the patient was a man who had masturbated as a boy and whose ego had been centrifugally determined at school ; the only child born of his marriage was a mongoloid idiot. There had been no self-abuse for years before his marriage, but the dread that he had permanently injured himself had always been present in his mind ; as in the case of many boys, the potential danger of the habit had been reinforced by the ignorant statements of his schoolmasters. The birth of the child, of course, inevitably completed his dread.

It will be seen in the discussion of the symptomatology of the mnemoneurosis, that these cases of completed dread differ in certain respects from those in which the element is active ; instead of being faced with the possibility of disaster, such people are in the atmosphere they dreaded and are to themselves utter failures. Their self-confidence, always defective, is still further reduced, and in those cases where no fault can be attributed to them themselves there is morbid self-sympathy, increased emotionalism, and dependence upon friends. In cases where the patient is driven to the idea that he is himself responsible for the disaster, there is self-reproach and depression. In both is the potentiality of suicide.

It must be emphasized that the agent operative in the development of the mnemoneurosis is dread, and that such dread may form in a variety of atmospheres. No one particular instinct or instinctive atmosphere has a specific value, taking the word instinct in its limited acceptance.

CLINICAL CONSIDERATIONS.

Etiology.—

Sex.—There is no specificity as regards sex-incidence. The condition is more common in men than in women owing to the greater opportunities for dread among them. The environment of determination associated with centrifugal determination of the ego is more usually encountered by boys than by girls.

Age.—The condition affects people at any age other than childhood; it becomes increasingly frequent after thirty.

Intelligence.—The mnemoneurotic is characteristically above rather than below the average of intelligence. He varies between self-consciousness and aggressiveness; he is inclined to be emotional. He is meticulously careful and fussy; he worries readily.

Social Status.—As has been seen above, in so far as a wealthy environment of adjustment is potentially less rich in the elements of dread, the higher ranks of society are less likely to develop clinical symptoms of the mnemoneurosis. There is, of course, no absolute value in this respect; it is merely a question of the content of dread of the specific environment.

Previous Illnesses.—Ill health in childhood has no direct bearing on the formation of a subsequent mnemoneurosis; indirectly it may have, if the illness in question be associated with discomfort and the presentation to the child of incomprehensible pain. In such cases the disease acts through its tendency to lessen self-confidence and by the element of dread it may induce as regards possible future attacks.

In the environment of adjustment, as has been seen, prolonged and painful illnesses in people whose egos are centrifugally determined may be associated with mnemoneurotic symptoms, but in these cases there is no specificity as regards the illness in question. In the case of the dysthymias—the anger-neurosis and the centripetal distortion-neurosis—there is a direct predisposition to the formation of the mnemoneurosis, and the conditions in question may be considered clinically as its preliminary phases.

Symptomatology.—

PRIMARY STAGE: FUNCTIONAL PAIN.—The symptomatology of the mnemoneurosis varies with the duration of the disorder; in the early phase the symptoms are for the most part exclusively subjective.

Such patients are miserable on account of their lack of self-confidence; they feel themselves incompetent and they are depressed. They are continually trying to justify themselves, for they are acutely conscious of their inefficiency or supposed inefficiency. Their work is performed with elaborate attention to detail; they bring their

office work back with them to their homes and work at it all the evening; they neglect their outdoor interests; they find themselves unable to take any holiday. In other words, in the earliest phase of the condition the subjective symptoms are associated with the characteristic absence of self-confidence.

In this phase, however, there is rarely any complaint of illness, and such lack of self-confidence can hardly be considered as constituting a functional nervous disorder in itself. Inevitably, however, in the course of time *pain* is experienced, and pain is the essential feature of the mnemoneurosis throughout the whole of its course. A consistent absence of pain contra-indicates the diagnosis of this condition; of all the functional nervous disorders the mnemoneurosis is the most painful, and severe functional pain—that is, severe pain in the entire absence of organic disease anywhere in the body—is to all intents and purposes diagnostic of this condition.*

The pain is variable as regards its character, locality, and incidence. It may be dull, gnawing, or aching; it may be cutting. Characteristically it is tearing or burning, but this is generally met with in the late stage.

Any part of the body may be the site of the pain, which may radiate or remain localized; the parts most often affected are the occipital region, the præcordium, and the abdomen. At the same time it is not at all uncommon in the limbs and trunk musculature; the condition often called ‘myalgia’ is frequently mnemoneurotic. The painful regions are tender on pressure.

For the most part the pain is constant with exacerbations; the relations of these exacerbations to such factors as posture, exercise, sleep, and food is variable; they may be increased, lessened, or unaffected by them. There is a tendency for it to be limited to the regions first affected, but this is only a tendency and is not absolute.

Vascular Basis of the Pain.—The basis of this pain has been, and still is, a subject for discussion; it would appear probable that it is of vascular origin.

The close association of the blood-vascular system with emotional activity has been abundantly recognized, and, as mentioned in the discussion on dysthymias, Cannon has shown how important a part the redistribution of the blood in the body may play in the terrified animal. The swift blushing of the emotionally unstable individual in moments of confusion is perhaps the commonest manifestation of

* Excessive pain in association with slight and inconspicuous organic defect is met with in hyperthymic people as already described; such pain is not in the true sense functional; it is certainly not representative of a functional nervous disorder. Hyperthymic pain in the absence of all organic disease is met with in the late or second stage of the mnemoneurosis.

an emotional tone, and is known to all. The sinking sensation in the epigastrium in situations of dread that is acute, the tingling down the spine and in the soles of the feet in atmospheres of horror; all would appear to be associated with sudden alterations in the blood-pressure in an atmosphere of increased emotional activity.

The capacity for pain inherent in the arteries has received increasing recognition of late; it is of frequent manifestation in many organic diseases. The pain of an embolus is well known, and arterial pain is to be recognized in any condition in which sudden alterations in the blood-pressure obtain. In aortic incompetence in young people after endocarditis, the combination of atrocious abdominal pain with a violently pulsatile and tender aorta is by no means uncommon.

The association of arteries with pain is not, however, limited to the vessels themselves; pain may result from the anatomical relations of certain arteries to nerves, and the pain then is radiating and conforms to the anatomical distribution of the nerve implicated.

It would appear probable that the prolonged activity of such an emotional tone as dread (of which, of course, fear is an integral associate) is accompanied by vascular abnormalities conducive to pain, either localized to certain vessels or referable to the relation of certain vessels to specific nerves, and experienced in the territory of such nerves.

The abnormality in question is atony of the arterial walls, and the condition may be summarized as one of vascular irritability. The implication of the abdominal aorta is associated with irritation of the peri-aortic sympathetic plexus and abdominal pain, chiefly felt in the middle line of the abdomen between the ensiform cartilage and the umbilicus; sometimes also extending along the course of the external iliac arteries. Palpation of the abdomen in such cases reveals a strongly pulsatile and tender aorta. The abdominal aorta, the external iliac arteries, and the common femorals are liable to be associated with pain in this manner; the occipital headaches are examples of pain arising out of the close association of a vessel with a nerve, in this case the vertebral artery with the suboccipital nerve as they lie together on the posterior arch of the atlas. Præcordial pain is the effect of irritable perforating arteries upon the anterior cutaneous branches of the intercostal nerves.*

Two points of interest arise in this connexion: the blood-pressure in cases of mnemoneurotic pain and the factors determining the site of incidence of such pain.

* It seems probable that certain cases of sciatic pain are determined by the association of the *comes nervi ischiadici* with the sciatic nerve-trunk in a similar manner.

Blood-pressure in Mnemoneurotic Pain.—The blood-pressure in early stages of the mnemoneurosis is variable; often enough it is normal. In the later stage, as the mental depression increases it rises; it may be high in the early phase also. In the generality of cases it is rather high than low; in any case, a high reading is in no way incompatible with the vascular asthenia and irritability essentially associated with the pain. At first sight this may seem paradoxical, but it must be remembered that mnemoneurotic pain is characteristically confined to one vascular trunk, and, as mentioned above, the case may progress from first to last without the implication of other vessels. Indeed, typically this is what occurs. It would seem as though the raised blood-pressure in these cases is of peripheral origin and not central,* and that the vascular constriction affects certain peripheral arteries but not others. The unaffected vessels (as seen above, the vessels unaffected are very few in number; in the majority of cases one only, or even but a part of one) bear the brunt of the increased pressure brought about by the constriction of the others in the absence of increased muscle-tone of their walls; they dilate with increments of the pressure; they react abnormally to alterations of the pressure; they are asthenic and irritable, and the nerves in association with them are also affected. In other words, there is a localized defect in arterial tone, and the blood-pressure obtaining in the arterial system generally has an abnormal effect upon the part of the artery so deficient, which becomes irritable, strained, and liable to dilate. Pain is established through the implication of the perivascular sympathetic plexus, and in certain cases, in addition, through the contiguity of spinal nerves to the part of the vessel involved.

Factors determining the Site of Incidence of the Pain.—These are not clear, but it seems certain that irritability affecting the vascular system generally is one. This irritability may be taken as arising out of the mechanism which normally acts in states of emotional activity, and which conduces to the redistribution of the blood in the body established by Cannon in such states and referred to above. Evidence of vascular irritability in the sympathetic neuroses is almost invariably present from a very early stage, and is manifested, for example, by the facility with which the skin reddens on slight pressure and the quickness with which angry red lines follow the drawing of the finger over it. But the essential feature of the arterial asthenia, which is at the base of mnemoneurotic pain, is its limitation to a part only of the arterial system, and generally to a small part as far as area is concerned. It is possible, of course, that certain

* "Relationship of the Speed of the Pulse to the Blood-pressure in Clinical Medicine", *Medical Chronicle*, 1910.

vessels and particular parts of vessels are inherently liable to develop this asthenic condition, but I would like to emphasize the undoubted fact that it is in those regions of the body to which the element of dread or fear is especially directed that the arteries, in part, become especially irritable. I have been impressed by the frequency with which mnemoneurotic patients with the pulsatile and tender abdominal aorta give a history at one time of abdominal disability, often enough many years before. Similarly, the præcordial pain which ultimately supervenes in cases of functional cardiac disorder (and which is, of course, itself a manifestation of centrifugal dysthymia) would appear to be associated with the continual presence of the idea of the heart in consciousness in a general atmosphere of dread. The same may be said in the case of dread of disease within the head; a condition of affairs frequently obtaining in patients who suffer in the course of time from occipital neuralgia.

Of course it must be understood that in the event of a previous gastro-intestinal disorder having left permanent structural changes, the mnemoneurotic pain which may ultimately arise is not in the true sense indicative of the mnemoneurosis as a functional nervous disorder; such pain is then a superadded functional symptom upon an organic abnormality. For the true mnemoneurosis there must be no demonstrable organic disease, and the rôle of the previous disorder, whatever it may have been, is that it draws attention to certain parts of the body in an atmosphere of dread through the operation of memory. Briefly, it may be said that whereas dread in general is associated with general irritability of the arterial system, dread in particular—that is, dread in association with some specific organ or system—is associated with local irritability or asthenia of the arteries, in whole or in part, situated in the region to which that dread is referred.

Necessarily, the differentiation between superadded functional pain of the mnemoneurotic order upon organic defect and the pain of the true mnemoneurosis may be very fine, for in some cases the defect in question is slight and the pain is severe. As a case in point, the metatarsalgia that occasionally accompanies slight flattening of the anterior arch of the foot may be mentioned; the pain is of vascular origin and is developed in centrifugally-determined people whose attention has been directed to the foot in an atmosphere of dread; but in that there is flattening of however slight a degree, the condition cannot be called a true mnemoneurosis.

Theoretically, of course, it is possible for people to go through an atmosphere of dread without ever developing a focus upon which to build their dread; such people would not experience the pain; their symptoms would be for the most part purely psychical. But

such a state of affairs, rare enough in normally-determined people, would be practically inconceivable in those that are centrifugally determined; the very absence of any concrete system from their consciousness (the absence, that is, of any apparent cause for their mental inefficiency) would bring the idea of the brain into consciousness in an atmosphere of dread and would be associated with mnemoneurotic pain in the head. Thus we see that the localized pain of the mnemoneurosis has its function as far as the empirical ego of the individual is concerned; it justifies to him the inability to live and to work as his fellow-men do; it gives him a reason for his failure to 'make good'. But, as a matter of fact, the conditions of life generally obtaining make it very easy to find some part of the body to worry about in an atmosphere of fear; most people by the time they enter into the first stage of the mnemoneurosis have memories of previous pains and illnesses.

It is in this way, probably, that certain illnesses in the environment of adjustment, not very severe at the time, have an almost specific value in the development of the mnemoneurosis; being associated with certain symptoms quite obviously referable to the thoracic, abdominal, muscular, or joint systems, they afford nuclei, so to speak, for the general atmosphere of dread in centrifugally-determined people to crystallize upon; the modern febrile 'influenza' group of illnesses has a positive value in this respect. Here, again, in the event of the illness having left any organic defect, all that can be said is that the pain is functional of the mnemoneurotic order; but in the less degrees of intensity of the influenza such defects are not common, and the local pains of the mnemoneurosis are dated from such an attack. In certain cases, indeed, the attack seems to precipitate the whole condition, sensory and psychical, and it would appear to have this effect possibly through a specific increase of self-distrust inherent in the patient, probably through affording him a period of convalescence in which to worry and to dread.

Psychical Symptoms.—The mnemoneurosis does not only consist of pain; the psychical symptoms are from the beginning prominent and, in some respects, the most troublesome to the patient. The declared psychical symptoms in the early stage are extensions of those which obtain in the centrifugally-orientated patient before the breakdown; self-consciousness, self-distrust, and worry passing into dread. But in addition there is lessened power of concentration, and this with the pain is generally what brings the patient before the doctor. The loss of the power of concentration is, however, relative; it is lessened for certain incidents, but not for others. Thus, as far as the daily work of the patient is concerned, it is lessened; as far as the subjective symptoms of the patient is concerned, it is

not : the degree of concentration brought to bear upon his sensations at this stage is very marked in the majority of cases. The diminution of concentration power is associated with the atmosphere of dread and pain in which the patient lives, in the first place ; as the condition progresses there is a lessening of emotional control which also operates in the same direction. Lack of concentration, worry, and dread bring about characteristic depression. The impairment of the power of concentration is inevitably associated with impairment of memory, which is also a frequent subjective complaint.

SECONDARY STAGE : STAGE OF HYPERTHYMIA.—In the first stage of the mnemoneurosis the chief complaint is pain, with depression and lessened concentration-power ; the patients in this stage are, in addition, self-conscious, self-distrustful, and subject to worry and dread. But in this stage their objective behaviour is apparently normal ; they are troubled with their condition, but they react to their trouble just as any normally-orientated man would do, and there is no element at this stage of any endeavour to impress upon their surroundings the magnitude of their disability. In the course of time, however, the emotional control becomes impaired under the constant strain of worry and dread, and the patient becomes hyperthymic. This is usually associated with certain objective somatic changes which occur at the same time, and the patient enters upon the second or hyperthymic stage of the mnemoneurosis.

Somatic Symptoms.—The somatic symptoms of the second stage are well known ; patients in this stage constitute the typical 'neurasthenic' as met with in practice. There is gastric dilatation, gastroptosis, and generalized visceroptosis on the one hand, and the liability to arteriosclerotic changes on the other ; in addition there are secondary effects of these conditions : abnormalities of pigmentation, toxic effects upon the sensory-nerve terminals, impaired cerebral, renal, and cardiac functions of arteriosclerotic origin.

The effects of worry and dread on the gastro-intestinal functions are well known, and have been demonstrated by Pawlow and Cannon. Most people have at one time or another suffered from the indigestion characteristic of some impending calamity ; in such states of anxiety and trouble there is alteration of the composition of the gastric juice and impairment of the motor functions of the stomach. Abnormal fermentation and consequent gastric dilatation are favoured by this state of affairs ; such dilatation is liable to be associated with dropping, first of the stomach and then of the other abdominal viscera. The resulting inefficient condition of the alimentary canal conduces to the absorption from it of deleterious substances, which exert a toxic influence upon the body tissues generally, and which serve to raise a blood-pressure already predisposed to be higher than the normal.

Prolonged hyperpiesis is associated with degeneration of the vessels and arteriosclerosis; cerebral, cardiac, and renal arteriosclerosis develop and dominate the picture. Toxic absorption is also to be associated with the paræsthetic phenomena so typical of this stage; the tingling sensations in the areas of distribution of different nerves. In reality these paræsthetic symptoms are to be considered as somatic and not psychical, there is a real basis for them on chemical grounds, and clinically they are remarkably constant as regards incidence and intensity in any one patient. The paræsthetic areas are usually tender on pressure.

The symptomatology of the arteriosclerotic phenomena does not concern us here; it in no way differs from arteriosclerosis developed in other atmospheres.*

Other symptoms of the late first stage and early second are subjective sensations which are associated with an unstable blood-pressure, which is for the most part rather higher than the normal. Such are giddiness and tinnitus.

As in the case of the pain, so with these two symptoms; there is no definite routine as regards their periods of intensity or modification by posture and exertion. In the majority of cases the tinnitus is constant and unvarying and tends to impede sleep, and of all the mnemoneurotic symptoms, when present, it is the least influenced by outside agencies.

The giddiness, on the other hand, tends to show exacerbations, but the associates of such increments vary with different patients. Perhaps the most characteristic form is that which is felt mainly at night when in bed, the patient saying that the bed sways about beneath her. This form, however, is by no means present in all cases; it is typical of the mnemoneurosis when present, and of the mnemoneurosis in its later stages.

The pain of the first stage persists through the second.

* It is well known that general paralysis of the insane is liable to be preceded by functional symptoms, and in so far as true general paralysis ultimately develops, such symptoms are to be looked upon as superadditions on the main disorder. But often enough similar functional symptoms occur which are followed by a condition closely resembling general paralysis, but which differs from it in one or two essentials. In these cases we are dealing with the cerebral atheroma associated with the late stage of the mnemoneurosis; the clinical picture of general paralysis is sometimes fairly accurately reproduced. In these cases we are dealing not so much with the true mnemoneurosis as its effects; naturally a condition of cerebral atheroma cannot be included in the diagnosis of a functional nervous disorder.

The paræsthetic symptoms of the second stage are analogous to the tingling and numbness that are encountered in states of uræmia, and from what has been said above they may in some cases pass into this condition through the intervention of renal arteriosclerosis.

Psychical Symptoms.—The most characteristic feature of the second stage of the mnemonurosis is the psychical symptomatology; the introspectiveness and restraint of the first being replaced by hyperthymia. That is, the patient reacts to his or her symptoms, as described above, in an exaggeratedly emotional manner, and a desire to impress upon his environment the severity of his condition becomes manifest in his behaviour. The reaction of the hyperthymic patient to pain has already been considered; such pain is experienced vividly; it produces profound distress; it is associated with an intense desire for sympathy. A development of this latter characteristic is to be seen in the morbid self-sympathy that these patients sometimes show, and this is particularly liable to arise when, through what he considers to be of no fault of his own, he has suffered disappointment in his worldly affairs.* Self-sympathy is natural to all men, but hyperthymic people show an excessive reaction towards their own selves; they are miserable, depressed, and useless, and unfortunately they realize this, and their whole attitude is conducive to suicide.

It is in the second or hyperthymic stage of the mnemonurosis that the extraordinary elaboration of subjective sensations so characteristic of the modern 'neurasthenic' is to be seen. The vividness and dramatic nature of their descriptions is known to all who have ever been engaged in general medicine, and is in itself quite characteristic of the condition. Outré and bizarre similes are employed to describe the discomfort they experience, and the diminution of the power of concentration that is to be recognized in this stage is manifest in the manner with which they no sooner begin to speak about one symptom than they are led away to discuss another; before they complete this, they are endeavouring to the utmost of their ability to make the listener realize the intensity of their sufferings and their reality. Their accounts of their illness are vivid, but are incoherent and disconnected. This curious and highly characteristic

* This morbid self-sympathy is frequently to be seen in men who have been mistakenly advised to give up their occupations owing to habit of worrying and self-consciousness, and the same applies to a change of occupation. Under these circumstances the patient is made to feel that he has been a failure; that after years of ceaseless work and worry and precaution for the future, the end has been the necessity of making a fresh start and that all his efforts have gone for nothing. In other words, these people are in the position of those who have been mentioned under the heading of 'completed dread', and the point has a practical application: patients suffering from the mnemonurosis in the first stage, or who are centrifugally orientated and liable to develop the mnemonurosis, should rarely, if ever, be advised to retire from their work or to alter its nature. Certainly it may be necessary to tell them to take their work easily, or even to rest from it altogether *for a time*; but always with the idea in their minds that they will ultimately be able to return to it. Whatever a man's work may have been, provided he has been interested in it and has devoted his life to its prosperity, compulsory and permanent withdrawal from it is liable to be very dangerous.

attitude of mind towards their symptoms arises out of the defective power of concentration and the hunger for sympathy described above ; it is essentially a feature of the hyperthymic phase of their disorder.

The second stage of the mnemoneurosis may be summarized as follows : The stress of the dread and pain of the first stage in the course of time lessens the emotional control and brings the patient into the hyperthymic state. This coincides with the appearance of objective signs developed in the continued atmosphere of dread, and associated with preceding and concurrent psycho-physiological manifestations proper to such an atmosphere. These signs are gastrectasis, gastropptosis, and splanchnoptosis, conditions which favour the formation and absorption of bodies possessing a toxic action on the tissues generally. The continued absorption of these substances has as one effect the raising of the blood-pressure, already inclining to be higher than the normal ; arteriosclerotic changes appear in the course of time, and the symptomatology becomes that of cerebral, renal, or cardiac arteriosclerosis. The toxic condition of the patient is liable to be accompanied by sensory-nerve symptoms, hyperæsthesiæ, paræsthesiæ, and anæsthesiæ. There is steadily increasing loss of self-confidence and powers of concentration ; there is morbid self-sympathy and a tendency towards suicide. In this second stage the pain of the first persists, and all the subjective symptoms are coloured by the hyperthymic state, which becomes more and more obtrusive as the case progresses.

In this way we see the quite natural linking up of a functional nervous disorder in the true sense of the term with organic disease, such organic disease being of a regressive or involutionary nature and inevitably fatal. It is as though certain people, having broken down in the struggle for existence on the psychical plane and so proved themselves unfitted for human life, pass quickly into the degenerative phase of life and are deleted. The wish that cannot be satisfied or resolved ; the dread that follows ; both imply a degree of inferiority on the part of the individual ; dread of any sort, of course, bears this implication of inferiority. And this dread is itself operative in bringing about, directly and indirectly, the blood-vascular changes associated with the involution of the tissues and subsequent destruction. Continued dread of all forms is a tacit admission of inferiority of the individual in relation to his surroundings, and quite logically it carries with it the potentiality of the removal of such an individual from those surroundings by somatic death.

DREAMS.—The dreams of the mnemoneurosis are fairly characteristic, but are not as dramatic as those of the dysthmias, as already

described. They conform to type in so far as the emotion operative during the conscious hours and impeded from free conative activity becomes apparent in sleep, and the characteristic dreams of the mnemoneurosis are the so-called 'worry-dreams'. They differ from the dysthymic dreams in that the emotion at work is very rarely sufficiently intense to awaken the patient at the time; the usual account given is that he remembers his dreams in the morning, and is worried and depressed by the remembrance.

But it must also be remembered that in the second or hyperthymic stage, in which there is lessening emotional control, we may for a time have these dreams intermixed with typical dysthymic dreaming, and they are then generally of the centrifugal dysthymic variety. Terror-dreams in the second stage of the mnemoneurosis are not uncommon, but their occurrence is only occasional.* At the same time, of course, dreams of the centripetal dysthymia may also occur.

But apart from these states of superadded dysthymia, the mnemoneurotic dream does not characteristically awaken the patient at the time; when he does wake in the morning he remembers it with distaste, and the memory may persist for some little time into his daily life and may be associated with depression.

THE OBSESSIVE OR INDIRECT FORMS OF THE MEMORY-NEUROSIS.

The mnemoneurosis described above is the functional nervous disorder which is liable to form in an atmosphere of dread which is open and intelligible to the patient and which is capable of expression and description by him. This, however, is not the only form in which dread is encountered; events with a positive dread-value may occur and may be forgotten, but their remote effects may become manifest in behaviour at some future time as a functional nervous disorder. And in so far as the retention in 'memory' of such events is actual, just so far is the subsequent behaviour mnemoneurotic. Events of this nature, though forgotten and unavailable to the patient under the ordinary circumstances of his life, are undoubtedly to be taken as being retained in some form; their essential feature is that they are recoverable and recognizable as memories by the patient.

This opens up an interesting question, already touched upon in the discussion on hysterical and psychical dissociation. It has already been seen that in certain circumstances in the environment

* In the hyperthymic stage, somatic dysthymic symptoms may occur from time to time—in particular, tremors. In the hyperthymic state, events which normally would not have any great emotional value assume a relative intensity which is sufficient to bring about dysthymic symptoms.

of determination incidents associated with a centrifugal emotional tone of sufficient intensity are 'dissociated' from the patient's consciousness; the somatic associates of such events being perpetuated. It was also seen that such a state of affairs might reasonably be taken as accompanying the transmission of the emotional disturbance from the perceptive to the conative mechanisms *en bloc*, collateral association-dispositions remaining unactivated. To avail ourselves of an analogy, we might represent this state in comparison with the normal state as the passage of an electrical disturbance *en bloc* through a lightning-conductor of the usual type; the normal state being represented by diffusion of the current through a network of conductors. The centrifugality of the emotional tone operative and the massive transference do not stand to each other in any 'causal' relation; they are associated factors in the general atmosphere of emotional uncontrol. In the human being it is doubtful if a pure transference *en bloc* ever occurs; considering the wealth of associational dispositions, a certain amount of activation of collaterals would appear probable; but such activation in comparison with what normally obtains may be taken as negligible.

The recovery of the initial incident associated with such a state of affairs is dependent on the extent to which these collateral association-dispositions have been activated, and in the true dissociated incident such recovery may be considered as impossible. In other words, in true psychical dissociation we have, not so much the isolation of the incident from consciousness, as a non-registration of that incident as far as pictorial memory is concerned at the time of its occurrence; and, from what has been said, the inevitability of the behaviour which is established at the time of this occurrence and which is manifested whenever, subsequently, the centrifugal emotional tone operative at this time is re-experienced in similar intensity, is the more absolute the more complete the non-registration.

Hysterical behaviour is to be taken as being of this nature; in its true form it is the manifestation of absolutely inevitable behaviour in association with an incident which was not registered in memory at the time of its occurrence; which is not so much inaccessible to the patient as non-existent as far as his memory in the broad sense is concerned. In such cases all the emotional 'energy' operative at the time of occurrence is to be considered as having expended itself on the activation and perpetuation of the purely somatic association-dispositions; such associations are not concerned with memory in the ordinary acceptance of the term.

It follows from this that we have an ascending scale of memory-completeness as the control of the emotion concerned increases; a condition of affairs short of absolute non-registration being theoretically

recoverable in memory.* The recovery in memory of incidents which have been associated at the time of their occurrence with an emotional tone of a degree of uncontrol just short of that which is accompanied with non-registration, is incomplete in proportion to the degree of uncontrol operative at the time.

But now we are faced with a condition of affairs associated with the complete forgetfulness of an incident which can be recovered in detail; which must have been thoroughly registered at the time of its occurrence; which therefore cannot have been, or be, associated with inevitability of behaviour. The abnormal behaviour arising around such an incident is therefore *never* hysterical in the true sense of the name; and it never can be hysterical.

Psychical dissociation in the true sense has never been operative as far as the incidents in question are concerned; at the time of their occurrence they were properly registered. Indeed, in many of these cases such incidents prove to have been registered with circumstantiality and in great detail. Yet they are 'forgotten' with a completeness that differentiates them from the forgetfulness of inattention, and they are liable to be associated with abnormal behaviour in the environment of adjustment. They are inaccessible to the individual apart from special methods of recovery; such people if 'reminded' of such incidents casually, quite sincerely say that they have never experienced them.

Superimposition of Dread upon more or less Ordinary Incidents; Phobias.—In all probability, in these cases we are dealing with the superimposition of a centrifugal emotional tone upon the incident as represented in memory, and it would appear as though such superimposition to be operative in this way must be shortly after the occurrence of the incident. Or rather, the sooner after the occurrence the superimposition is effected, the more profound the ultimate amnesia and the greater the difficulty, even by the employment of specialized methods, of recovering the incident in memory.

Suppose for the purposes of exemplification we take the case of a child who has put a pea up his nose: it is recovered, and the child registers the incident in detail. If now he be warned impressively about the dangers of such a proceeding and has the unpleasant potentialities demonstrated to him, there is the liability of the superimposition of dread and horror upon the incident as registered, but such horror is not essentially concerned with the incident as such.

* It should be remembered here that the ascending scale is probably more of the 'staircase' variety than the simple 'inclined plane', the development of emotional control even in the human being a matter rather of sudden considerable increments and pauses than one of uniform and constant progression.

but with the accessories : the pea, the nose itself, injuries to the nose, nasal discharges, and so forth. In so far as these accessories are represented psychically by association-dispositions activated in the atmosphere of a centrifugal emotional tone of insufficient uncontrol to be accompanied by psychical dissociation, and in that they are, psychically, grouped round the central incident, an emotional-tone atmosphere which would otherwise have re-activated that incident in pictorial memory is expended upon the re-activation of these accessories in such memory in proportion to (1) the 'closeness' of their superimposition upon the primary incident, and (2) the excess in emotional-tone intensity of the atmosphere in which they were activated as compared with that in which the primary incident was registered. In other words, the accessories are themselves invested with a specific emotional-tone intensity, which is readily explicable in the light of complete knowledge of the whole experience (primary incident and superimposed accessories), but which is wholly unaccountable in the event of the primary incident being lost.

As regards the first of these two factors, it is important to realize that for the proper manifestation of this neurosis in later life the individual at the time of the primary incident and the superimposition of the operative accessories should, as far as possible, be psychically the 'same' individual. In the event, for instance, of a year or so being allowed to elapse between the occurrence of the incident and the pointing out of its inherent risks, there would be the possibility and the probability of the linking up of that incident with associations other than those centrifugally determined ; the incident and its risks would, so to speak, be separate and distinct ; psychically, the individual would have 'altered', and abnormal behaviour, as far as that specific incident is concerned, would be of unlikely occurrence.*

As far as the second of the two factors is concerned, it must be realized that not only are the elements of the superimposed accessories possessed of an absolute centrifugal emotional tone, but that the incidence of such an emotional tone will keep these elements alive in pictorial memory and will 'obsess' the patient. Given that he is in the process of centrifugal determination, his prevalent emotional atmosphere, actual and re-induced, is centrifugal, and is thereby charged with the potentiality of obsessive

* The state of affairs in this latter case is well exemplified by the case of a child, say, who has visited once or twice some house which he liked and which he memorized. In the course of time he hears of something horrible in association with it ; some murder or other disaster of absolute significance. He then hates the memory of the house, but he does not form a neurosis in association with it ; he does not develop an amnesia for the house.

behaviour, which becomes increasingly manifest as the centrifugal determination of the ego progresses, becoming manifest when it is complete. In this way we expect to find a latent period between the occurrence of the primary incident and the manifestation of abnormal behaviour in relation to the elements of the superimposed accessories, and, of course, this is of notorious occurrence.

It is not necessary that the superimposed factors should be 'told' to the individual; often enough he works them out for himself immediately after the incident; the incidents, then, are normal and more or less ordinary situations, into which the element of distress suddenly and unexpectedly enters and is registered before its full significance is realized. The quickness and fullness with which it is realized form measures of the completeness of the superimposition of a centrifugal emotional tone upon the incident.

In the truest sense of the expression we have in these cases of superimposition a condition of psychical isolation as distinct from psychical dissociation. The re-activation of the associations formed at the time of occurrence of the incident—its recall in the memory, that is—is prevented by the operative emotional tone expending itself in the sphere of the superimposed accessory associations, and the more complex and the richer these are, the less the likelihood of the recovery of the central experience in pictorial memory. At the same time, in accordance with their complexity and richness, and therefore, to some extent, in accordance with the age of the patient, the more is there maintained a constant re-invoked emotional tone of the same order as that operative at the time of the superimposition, which in time keeps the superimposed elements alive in pictorial memory at the expense of the central incident. And, of course, the more the child is developing in the atmosphere of centrifugal determination, the greater the likelihood of this mutually re-inforcing mechanism. In the case exemplified above, the individual would possibly experience utterly incomprehensible dread and distress in association with his ideas of peas, nasal injuries, nasal discharges, and so forth, and, what is equally important, in atmospheres likely to be associated with such ideas. The incomprehensibility of such distress would be a source of further worry and anxiety which would, more and more, dispose to the keeping alive in memory of the elements concerned; and the greater the number of the atmospheres he has experienced, the more and more does this distress dominate his life until, in the end, he cannot exclude them from his thoughts at all, and the neurosis is complete. Such a patient is said to suffer from 'obsessions' or 'phobias'; but it cannot be too strongly emphasized that such phobias are entirely separate and distinct from the tendency to automatic actions which are liable to develop in the atmosphere of a

psychical dissociation mechanism and which also have been called phobias. The differentiation between the mnemoneurotic phobia as described above, and the tendency to automatic action characteristic of hysteria in some of its forms, will be discussed shortly; for the moment we may say that this latter is associated with behaviour that is kinetic, constant in kind, and automatic; which is not elaborated, and which subserves primitive requirements (being based on associational dispositions of the primitive or archaic order).

In all these respects the so-called hysterical phobia differs from the mnemoneurotic, but in nothing does the one differ from the other more radically than in their underlying mechanisms; the one being determined by absolute non-registration of an experience as far as pictorial memory is concerned, the other by a very complete registration; and the more absolute the one and the more complete the other, the more typical of each are their respective 'phobias'. They only resemble each other superficially, in that in both at a given time there is a tendency to behaviour which the patient cannot explain.

Relative Inattention.—Mention has already been made in a previous section of the forgetfulness that is associated with lack of attention, the incidents concerned being incompletely registered in an atmosphere of attenuated emotional intensity. In the group now under discussion, registration, as has been pointed out, must be taken as being complete at the time of occurrence of the specific incident, and the emotional intensity prevailing at the time as not being of this attenuated order. It is important to realize that the intensity of an emotional tone operative in this respect is incapable of *absolute* definition; it is a question of *relativity*, and the relativity is not in comparison with emotional-tone intensities in different people but of the individual himself. Given that the emotional control of an individual be not normally developed, then there is the possibility of fluctuations in intensity rendering a relative attenuation of frequent occurrence; there is corresponding frequent forgetfulness. But in such people the memories of the forgotten incidents are recoverable with completeness, for such incidents were registered at the time of their occurrence, and only in the light of subsequent events does the emotional tone operative at the time become relatively insufficient. This condition of affairs may be called '*relative inattention*', to differentiate it from that which obtains when the operative emotional tone is definitely subliminal and the associated registration is correspondingly incomplete. Necessarily the amnesia of relative inattention is most likely to be formed in the environment of determination, in individuals whose psychical context is potentially

incomplete and whose emotional control is in the process of formation and therefore unformed at the time.

The condition may be discussed according as it affects children whose egos are in the process of centripetal orientation, of centrifugal orientation, and of normal orientation. In the first of these groups we are dealing with children who, in the environment of adjustment, will be liable to obtrusive hysteria, and who, in that of determination, are liable to the operation of psychical dissociation. If the primary specific incident be sufficiently horrible, it is *ipso facto* dissociated; that is, non-registered, and there is no possibility of subsequent recovery in memory; but if there be no intrinsic horror at the time, then the incident may be registered. If now there be a superimposition of terrifying associations, then there is the liability to dissociation in the sphere of these associations; they are not registered as such; certain somatic associations are perpetuated and rendered inevitable. But in that these terrifying elements are not registered, there is no association between the specific incident and the subsequent impulsive behaviour. The patient in the environment of adjustment will be liable to primary and tertiary hysterical manifestations, into the make-up of which the behaviour perpetuated around the superimposed warnings enters; if and when he experiences an emotional tone of the requisite intensity, he will be liable to a diminution of the field of consciousness with specific abnormal behaviour determined, not by the actual primary incident, but by these warnings which, from the standpoint of his hysteria, are themselves in reality the elements of the true primary incident. Such a patient will remember with indifference that, when a child, he pushed a foreign body up his nose, but such a memory is not a determining factor as regards his symptoms in the adjusted environment. In the event again of his sustaining an injury to the nose in the environment of adjustment, he may develop a protective tonic spasm as a tertiary hysterical manifestation. But in that there has been no dissociation in the sphere of the empirical primary incident, there is no hysterical behaviour in that sphere; the psychical primary incident is the subsequent warning, which is dissociated and non-recoverable in memory. Psychically speaking, the two primary incidents are separate and distinct.*

In the event of the child being in the process of centrifugal orientation of his ego, we have a condition peculiarly potent in the subsequent development of the obsessive form of the mnemon neurosis.

* In the event of the warning and the empirical primary incident coinciding, then, of course, the whole situation is dissociated and non-registered, and the empirical and psychical primary specific incidents merge into one.

for such an orientation implies an excess of emotional intensity in the atmosphere of possibilities as compared with actual experiences. The emotional atmosphere of the primary incident fades relatively in comparison with that of the secondary associations of that incident; the atmosphere conducive to centrifugal orientation of the ego being one in which importance is laid not so much on events that have occurred as on the possibilities of such events in the future from the standpoint of their centrifugal emotional-tone content. The centrifugally orientating child may indeed be described as tending to drain the records of experiences of their emotional atmosphere (when centrifugal, and of course the centrifugal orientation implies an undue richness in the life of the individual of incidents associated with centrifugal emotional tones) in favour of secondary, tertiary, etc., associations of these experiences.

In the case of the normally orientating child we have no such de-emotionalization of the incident in favour of its secondary centrifugal associations, but a diffusion of the emotional tone uniformly through a wider range of associations rendered practicable in the atmosphere of greater emotional control than in the cases just considered. Such individuals in the environment of a distressing or possibly dangerous incident would not have the horrors only dwelled upon, but the warnings would quite properly contain the elements of emotional tones of the centripetal order as well. In that there is diffusion of emotional tones of the two orders, there is less possibility of subsequent relative attenuation of the emotional tone operative: the amnesia of relative inattention does not form.

In this way we see that cases of the obsessive mnemoncrosis are in reality dependent only indirectly on the apparent specific incident, which is really the nucleus upon which the psychopathic associations are built. The greater the tendency towards centrifugal orientation of the ego, the greater the probability of amnesia through relative inattention and the more the likelihood of abnormal behaviour in the environment of adjustment. Of course it must be remembered that in the environment of determination the frequency with which secondary associations are activated in the atmosphere of centrifugal emotional tones is itself an integral associate of centrifugal determination of the ego.

For the subsequent development of abnormal behaviour in the atmosphere of amnesia through relative inattention, the superimposition of centrifugally activated associates must be in direct association with the initial registration; the greater the number of associational dispositions activated around it in an indifferent emotional atmosphere, the less the likelihood of isolation of the incident as registered from the emotional standpoint.

In these cases of psychical isolation the behaviour certainly may be abnormal, and in the course of time through secondary, tertiary, etc., associations, may assume kinetic attributes and become more or less habitual; their chief feature is the degree of mental depression manifested by the patient. Limitation of the field of consciousness in the strict sense does not occur. In the case described above, the patient realizes that his entirely unintelligible horror and discomfort associated with peas or the idea of hurting his nose is peculiar to himself, and, as my friend Professor T. H. Pear has succinctly said, it is no use telling him that his attitude of mind is silly, because he knows it is silly and that is what worries him. It is this element of worry which ultimately, through the consequent depression, brings about dread; usually of insanity, at any rate of complete inefficiency for the ordinary activities of life.*

Symptomatology.—The clinical features of this form of the memory-neurosis, which may, perhaps, for the sake of convenience be referred to as the ‘obsessional mnemoneurosis’, may be summarized as follows. There is depression, worry, and a dread of

* The criticism may be encountered here that in the light of the above considerations cases of dual personality as already described under primary hysteria should either be considered as cases of this form of the mnemoneurosis, or else that they militate against the idea of the non-registration of psychically dissociated incidents.

It must again be emphasized in this connexion that behaviour as manifested to the environment is in no way to be taken as necessarily implying any association with conscious memory. In cases of dual personality, the behaviour in the abnormal phase represents the re-activation of somatic association-dispositions in the atmosphere of a centrifugal emotional tone, analogous, as far as intensity and lack of control goes, to that which was operative when the percept in harmony with such behaviour was presented to the patient’s consciousness. Such subsequent re-activation is associated purely with emotional activity and not with ideas; the behaviour is inevitable and is automatic; consciousness for the time being is in abeyance. In the course of time association-dispositions are activated in the environment of adjustment in the atmosphere of these inevitable somatic association-dispositions; consciousness is then limited, but as time goes on the limitation becomes progressively less and we have hysteria in the phase of expectation and finally conscious or wilful ‘hysteria’, which, of course, is not hysteria at all. From this it follows that, behaviour being automatic in the initial phase of the disorder,—in the true hysteria, that is—there can be no depression and no worry; these attributes are, however, integral features of the mnemoneurosis, in which there is no limitation of the field of consciousness.

Formed memories of specific incidents are never to be found in the case of true hysteria; they can be suggested to the patient, who may then fit them in with his perpetuated somatic associations as the case progresses from the phase of inception to that of establishment on the way to expectant hysteria.

But, however striking speech or movements may be in the automatic phase, there is no necessary implication that the associated idea is in existence in the patient’s psychology somehow and somewhere. All the indications go to show that hysterical patients of all groups, in the intervals of their manifestations or apart from them, are typically free from worry and dread; they are characteristically placid.

specific objects, situations, or disabilities which is utterly incomprehensible to the patient. This dread may be accompanied with appropriate behaviour, but such behaviour is never automatic; the patient is rendered miserable by its insistence, and he may, to some extent, modify its performance, but the associated worry is there all the time, and this contributes in no small degree to his dread of impending insanity; such 'logical' dread then brings him into the sphere of the ordinary form of the mnemoneurosis, with its chain of possible sequelæ.

DREAMS.—The dreams of such people are those characteristic of the mnemoneurosis: the worry-dreams already described. In the event, however, of any particular dream being concerned with associations allied to those concerned in the original superimposition, we may have an intensity of fear or horror developed that may waken the patient, but the fear in such cases is rarely so acute as that which obtains in the centrifugal dysthymic dream. Obsessional mnemoneurotic dreams, for instance, may be associated with calling out and articulation; they are rarely accompanied with shrieking.

POWER OF CONCENTRATION.—In the first phase of the condition, that is, in the phase before intelligible dread is developed, the power of concentration is not essentially diminished; in the second stage it is, in conformity with what has already been described as obtaining in the ordinary form of the mnemoneurosis.

Difference between Hysterical and Mnemoneurotic Phobias.

—The obsessional dread in this form of the mnemoneurosis is often referred to as a 'phobia', but it must be remembered that such phobias differ as sharply from the true hysterical phobias as both do from fear. The hysterical phobia is represented by an impulse towards simple automatic kinetic action in certain well-defined situations; impulses to run away from crowds, from empty spaces, from darkness; when there are no crowds, empty spaces, or railway tunnels in the environment, the patient is perfectly normal and contented. He never frets about his tendency to impulsive behaviour until it has entered into the group of expectant hysterias; then he may do, in a mitigated manner, but if the behaviour in question seriously inconveniences him it is quickly rectified, either by the development of other hysterical manifestations directed towards the alteration of the offending environment, or, later on, in the environment of adjustment, by natural removal. The mnemoneurotic phobia is different; the patient is always, more or less, endeavouring to forestall the distressing situations, and he is constantly worried and depressed. The methods of the forestalling, of course, form the objective symptoms of the condition, and are only limited by his imagination and ingenuity.

The obsessional mnemoneurosis resembles the ordinary form in that it is predisposed to by centrifugal orientation of the patient. It may be asked quite reasonably whether such a condition can ever occur in hysterical people; in the event of a child who is being developed in the atmosphere already described as conducive to hysteria encountering a situation apparently harmless in itself but subsequently endued with terror, is it to be expected that he will, in the course of time, be liable to suffer from mnemoneurotic phobias? The answer, of course, is No; but he is likely to develop specific hysterical symptoms of the tertiary variety in the environment of adjustment as mentioned in the description of the tonic hysterical muscle-spasms, and it is probable that some of the cases of hysterical vomiting are determined in this way also; somatic associational dispositions being perpetuated in the sphere of the region concerned, with minor psychical dissociations along these dispositions in the sphere of the warning-illustrations used in the superimposition of terror. There can, of course, be no non-registration of an incident already registered; the central event remains in consciousness, only it is not connected with secondary, terror-determined, associational dispositions other than those subserving simple somatic response. It is not connected, that is to say, with any ideational terror-evoking associational dispositions, superimposed upon the psychical representation of the original event, and which are non-registered; that is, psychically dissociated in the true sense of the expression.

It is the absence of such secondary, terror-evoking association-dispositions, with the presence of perpetuated specific somatic dispositions, that is intimately concerned with the difference between hysterical behaviour arising in such circumstances and the mnemoneurotic; and it must be remembered in this connexion that the potential mnemoneurotic, in the environment of determination, in so far as he is being centrifugally orientated, is specifically predisposed towards the retention and further elaboration of the terror-evoking associations.

The hysterical phobia is characterized at its inception in the environment of adjustment with an uncontrolled *impulse* to escape from certain specific surroundings; there is, however, no dread, and when such surroundings do not obtain, the individual is perfectly contented and happy. The mnemoneurotic phobia, on the other hand, is associated with *ideational dread* which is constant, which is capable of being modified to a certain extent, and which is not impulsive. The only point of similarity between the two is the purely empirical one that in neither case does the patient understand why he is subject to the impulse on the one hand and the idea on the other. In the hysterical patient there is no possibility of the

resolution of such impulses in consciousness ; a non-registered incident cannot be re-synthesized by the individual himself ; in the mnemonotie such a re-synthesis is academically possible, though of problematic likelihood ; the psychical registration of the incident concerned is an accomplished fact, and it is conceivable that an intelligent patient should recover it and resolve his condition for himself. In the case of the hysterical phobia it is possible by elaborately careful inquisition to find out with considerable accuracy the nature of the original incident from collateral evidence, and the implantation of a corresponding incident will relieve the impulse with a completeness strictly in conformity with the accuracy of the correspondence ; but such a result does not carry with it the implication that the incident implanted is, in fact, the incident that occurred, though as a matter of chance it may be. In the mnemonotie a very much simpler inquisition brings the concrete memory of the incident concerned into consciousness, with academically perfect relief of the morbid state.

Factors determining the Manifestation of Obsessive Symptoms.

—The factors which actually determine the manifestation of the obsessive form of the memoryneurosis in the environment of adjustment, would appear to be the combination of diminished emotional control from any cause and the frequent encountering of one or more of the elements invested with dread in the environment of determination, at the time of the superimposition upon the central incident. Thus, in the recent war the ideas of injuries to all parts of the body, of blood, of pain, and so forth, would come to the fore in every soldier ; the strain of service tended to lessen emotional control, and centrifugally determined people with psychically isolated elements in their memories would have every opportunity to develop in the course of time the characteristic dread.

The Obsessive Form of the Memory Neurosis as a War Neurosis, and its Relation to Relative Inattentions.—A very interesting state in certain soldiers has been described by different people, and in particular by William Brown, in which men who have recently been exposed to the stress and strain of violent fighting are subsequently invalided with symptoms which in the main conform to the terrorneurosis, but in which the somatic symptoms are less in evidence than the psychical, which are for the most part represented by severe depression, dreamy states, and terror-dreams. Such patients are unable to give any specific account for their condition ; they are usually those who have endured battle strain for a considerable period, and can find nothing in the recent fighting very different from what

has gone before without any such result. An interesting feature is that there is a steadily progressive amnesia for the details of the period during which the fighting associated with the development of the morbid state occurred.

It has been found* that under the influence of quite light hypnosis these details are recoverable in an atmosphere of a centrifugal emotional tone of great intensity; one which there is no reason to believe different from that operative at the time of the registration of the incidents concerned. In the event of the hypnosis being sufficiently carefully applied there is, according to Brown, a linking up of these memories into consciousness and a resolution of the abnormal state.

In so far as this is the case we are dealing with a memory-neurosis; a form of it which conforms to the obsessive variety in that the condition is associated with memories unattainable by the patient in ordinary circumstances, but differing from it in the absence of any one specific incident of the environment of determination.

These cases should be considered highly exotic forms of the obsessive mnemonia, and probably specific to the conditions of modern warfare. They differ sharply from the hysterias in that they occur in people who are not contripetally orientated, and who have endured emotional stresses and strains with apparent impunity for a considerable time prior to their invalidation.

The probable explanation would appear to lie in the development of hyperthymia in the cumulative environment of horror and terror through which these people have come; this is associated with a progressively increasing emotional uncontrol which renders each successive engagement more terrific than its predecessor, yet intimately associated with its predecessors through the very similarity of its incidents. The emotional content of the former incidents becomes progressively less and less in comparison with that of the more recent; there is, therefore, a progressive amnesia for those of longer standing, in proportion to their establishment. There is, in other words, an ultimate relative inattention, but such inattention only comes into being through increasing emotional uncontrol of the later incidents; we have, in reality, not so much a relative inattention as a relative hyper-attention for later events. There is no one specific dread, but a general withdrawal of consciousness in proportion to the hyperthymic state-intensity; the extremity of the centrifugal emotional-tone intensity and its duration being associated with the depression and terror-dreaming. It is to this most exotic and outrageous intensity of centrifugal emotional tone that the

* Myers; William Brown.

occurrence of these states in the environment of adjustment is attributable; their very exoticism and 'unaccustomedness' render the environment of adjustment in reality an environment of determination.

In the slighter forms of this condition we have simply a rapidly-fading memory for certain incidents and situations; a slighter degree of emotional uncontrol, and therefore a relative absence of functional symptoms.

The dreaminess and mental dullness of these cases when invalided is a direct associate of the emotional uncontrol. The emotional constitution of these people at the last is such that the ordinary incidents of life are insufficient to bring about any proper response; compared with the hyper-emotiveness of recent incidents they are relatively non-emotional, and the patient is but partly conscious, or 'dreamy'. In the event, however, of this hyperthymic state being taken advantage of, and the emotionalism being concentrated as in the production of hypnosis in the usual way, then the suggestion of recent fighting brings out the emotional tone operative in all its uncontrolled intensity.

SUMMARY.

1. The mnemoneuroses form the majority of cases of functional nervous disorders as met with in modern civil life, and the functional symptoms liable to develop in association with organic disease are commonly of this type.

2. They are found in two chief groups, the simple or direct and the obsessive or indirect. In both, memory is an essential factor in their formation.

3. They occur in the environment of adjustment to people who have been centrifugally orientated in the environment of determination, and factors which conduce to such orientation are to be considered as predisposing to the mnemoneuroses.

4. The exciting factor in the environment of adjustment is dread, and any situation associated with dread has an absolute value in the formation of these disorders.

IN THE SIMPLE OR DIRECT MNEMONEUROSIS.—

5. The element of dread is dependent on conscious memory, and is comprehensible to the patient and to the environment. The resulting symptomatology falls into two groups, a primary and a secondary.

6. The primary stage is characterized by the incidence of pain, which is of vascular origin and which is associated with localized

arterial asthenia and irritability. The pain is determined by direct irritation of the peri-arterial sympathetic nerve plexus and, in certain cases in addition, by the anatomical relations of certain arteries and nerves of spinal origin. The site of incidence of the pain is associated with the persistence in consciousness of specific regions of the body in an atmosphere of dread and worry; its occurrence is accompanied with a blood-pressure that tends to be raised above the normal.

The psychical symptoms of this stage are mainly those which characterize centrifugal determination of the ego: lessened self-confidence; introspectiveness; self-distrust; and a corresponding tendency to worry. There is in this stage no essential loss of the power to concentrate, the loss that commonly occurs being secondary to the pain.

7. The second stage is the stage of hyperthymia, and arises when the emotional control characteristic of the centrifugal orientation is lessened in the constant atmosphere of dread and pain. The patient reacts to his subjective sensations with progressively increasing emotionalism, and there are associated organic abnormalities: gastrectasis, gastropnoia, and visceropnoia; absorption of pressor substances, and hyperpiesis—with its consequences, cerebral, cardiac, and renal arteriosclerosis.

8. The potentiality of death inherent in the mnemononeurosis is to be considered as being of biological importance; as affording a means whereby an individual who has succumbed in the struggle for existence on the psychical plane is removed from the somatic sphere as of no further utility from the standpoint of evolution.

IN THE OBSESSIVE OR INDIRECT MNEMONONEUROSIS.—

9. In this condition the morbid state is developed in association with a dread that is incomprehensible and peculiar to the patient.

10. It is associated with the occurrence of incidents in the environment of determination which were completely registered in memory at the time, and upon which registration the element of dread was subsequently superimposed. The superimposition to be effective in this way must have been at a short interval of time after the registration of the incident in memory. The condition then becomes one of relative or secondary inattention as far as the incident is concerned. The memories of such incidents are thereby rendered inaccessible to the patient, being isolated by secondary associational dispositions activated in the atmosphere of a centrifugal emotional tone at the time of the superimposition of the dread. Any state of fear or dread is capable of reactivating these dispositions; the reactivation of them by the specific elements to which they are directed excites a centrifugal emotional tone.

11. The morbid state liable to be associated with such psychological isolation differs from hysterical behaviour in the following respects:—

The mnemoneurotic state in question is not intermittent and impulsive as in the case of hysteria; it is constant and capable of modification to a certain extent by the patient himself.

The mnemoneurotic state is associated with constant emotional unrest, which is characteristically absent in hysterical phobias.

In the mnemoneurotic condition the essential objective manifestations are those directed to the forestalling of the dreaded atmosphere; with hysterical phobias there is no such forestalling, the condition not being present in consciousness unless and until the specific environment is in being; the inevitable and impulsive behaviour then occurs.

The state of affairs in the obsessive mnemoneurosis is essentially concerned with ideational association-dispositions; the somatic manifestations appropriate to such dispositions are never perpetuated, but are variable with varying surroundings. In the case of the hysterical phobia the association-dispositions essentially concerned are somatic themselves; these are perpetuated; the associated behaviour is inevitable and unvarying for a certain specific environment, and is never manifested in any other.

12. The obsessive mnemoneurosis, like the simple, passes in the course of time into a second or hyperthymic stage, which in its essentials does not differ from that of the simple mnemoneurosis. The symptoms, functional and organic, peculiar to this stage are super-added upon the obsessive dread.

13. The factors determining the actual manifestation of obsessive symptoms in the environment of adjustment are: diminished emotional control from any cause; and the frequent encountering of situations rich in the specific objects to which the dread is potentially directed.

14. In both forms of the mnemoneurosis, and in both stages, there is characteristic and constant depression.

15. The dreams of mnemoneurotic patients are the so-called 'worry-dreams', and their emotional content is rarely of sufficient intensity to wake the patient at the time. Secondary, dysthymic dreams, centrifugal and centripetal, may occur in the hyperthymic stage of both forms, and in no way differ from such dreams as already described.

*PART IV.—SOME CONSIDERATIONS REGARDING THE
FUNCTIONAL NERVOUS DISORDERS IN GENERAL.*

CHAPTER XII.

THE DREAM AND ITS CLINICAL SIGNIFICANCE.

THE phenomena of dreaming have attracted the attention of mankind for centuries, but it is only during the past few years that any serious attempt has been made to study them in the light of such psychological knowledge as is available. The modern study of dream psychology is identified with the name of Freud, and whatever views are held of the Freudian theories and their applicability to the elucidation and treatment of functional nervous disorders, no one can afford to ignore the importance of his work on the dream, or can fail to realize the great value of his researches in this field. He has succeeded in investing a subject, characterized till recently by empiricism and mysticism, with an atmosphere of science; he has done more, for he has indicated the clinical material inherent in the dream and the importance of its study to functional nervous disorders. The dominance he attaches to the sex-instinct as a factor of the dream may be disputed, but this in itself is of value in that other possible factors are brought to the fore.

Recent Freudian literature is, however, in some respects disappointing; there seems to be a tendency towards empirical interpretation of dream-incidents and towards a universal application of such interpretation, which, academically in any case, would appear to be unjustifiable. The Zurich school has recognized this, and the work of Jung and his followers must be considered as an advancement on the purely Freudian conceptions. Quite apart from the interpretation of dreams, undoubtedly the most valuable work to be attributed to Freud is that embodying his theory of the mechanism of the dream, but for the purposes of clinical medicine the mechanism of dreaming does not hold the foremost place. It is important to realize that the incidents of the dream and the same incidents in consciousness do not necessarily have the same meaning; it is also

the case that in a certain class of functional nervous disorders the dream-incidents may have a positive value in detailed diagnosis; generally speaking, however, such incidents possess secondary importance only from the point of view of the clinician.

It is probable, though difficult of proof, that dreaming is constant in the majority of mankind; the very 'strangeness' of atmosphere on waking would appear to point in this direction. It is probable, as Freud has suggested, that this amnesia for the dream is an integral factor in dream mechanism in normal people; it is, however, certain that a conscious interest in dreaming is conducive to memorization of the dream on waking; in other words, such amnesia as there may be is materially diminished in intensity by conscious attention to the phenomena of dreaming. It is open to doubt whether it is altogether advisable to arouse this conscious interest in apparently normal people, and the habit of going to sleep with a pad and pencil at the bedside to record the dream at the moment of waking is open to criticism. It is better to let such people rest on the idea that they do not dream; reserving to ourselves the opinion that they do, and that their dreams are obliterated from their conscious hours by a normal mechanism which it is undesirable to modify.*

But now there are many people who, quite apart from any conscious attention to the dream, will, on inquiry, state that they always dream; that is, that they always remember their dreams on waking, and, as an extension of this class, there are people who voluntarily give as a symptom of their condition the fact that their dreams are a source of trouble to them. From the clinical point of view these two classes are of interest, and the latter of the two possesses a positive value as far as the phenomena of functional nervous disorders are concerned. In both cases there is a departure from what normally obtains, and in one the departure is in excess of the other, but the difference is in all probability one of degree rather than of kind.

The former of these two classes, that in which the individual on being specifically asked states that he always dreams, is characterized by the fact that for the most part the dreams are not a source of disturbance to him, and it is probable in such people that we are dealing with what may be called a 'habit of dreaming'; the patient, having dreamed, expects to dream, and, in accordance with what has already been described in connexion with the nature of sleep, such expectation is liable to be fulfilled. (It would be better to say the patient, having memorized his dreams, expects to memorize

* As will be seen later, however, there does seem to be a class of case in which careful inquisition into the dream may be important from the standpoint of accurate diagnosis and treatment; such cases, of course, are not normal, and the inquisition in question is directed to the end of rectifying the abnormality.

them. The phenomenon is analogous to the waking up at precisely the same time each morning.) Such memorization of the dream, though a departure to a certain extent from what usually obtains, cannot be said to be indicative of any clinical abnormality in itself. Such a conclusion can be drawn, however, when the patient voluntarily states that he has distressing dreams, or when the physician is able to convince himself that such is the case in the absence of such a volunteered statement. Dreams of this type have a positive clinical value, and they are to be discussed from two standpoints: their *emotional content* and their *incidents*. Of these, the former possesses the greater value for the clinician.

THE EMOTIONAL CONTENT OF THE DREAM.

Normal dreams, if remembered at all on waking, should be associated with a mild form of casual interest only and rapidly forgotten; they should never waken the sleeper in themselves. Dreams that do disturb the sleeper from his sleep possess an abnormal emotional content, and in the event of their recurrence with any degree of frequency, they indicate that the emotion experienced in the dream has been unnaturally treated, from the point of view of the instinct of which it forms an aspect, during the waking hours. That is, the instinctive activity in question has been excited during the waking hours and has not been properly relieved in an atmosphere of the appropriate specific conation, and an essential factor in the impediment of such relief is, as has been seen, emotional control.

A question of interest in this connexion is this: How is such emotional control related to the waking hours in the sense of its being consciously experienced? The answer must be, I think, that *any* consciousness of such control implies diminution of its intensity as compared with the normal, but in so far as such control is efficient in the divorce of the emotion experienced from the specific conation, it is potentially operative in the mechanism which releases the emotion in the dream, and the degree to which it is so operative is proportional to the degree of diminution of the control in the waking hours. Given that emotional control be ideally absent in the waking hours, there is no separation of the emotion felt and the appropriate conative activity; there is in such cases no experience of the emotion in the sleep. Given that the control is maximum, there is the possibility of complete separation of the emotion from conation, and there are no emotional dreams; this state of affairs is represented in the 'normal' man. Intermediate between these two extremes we have the possibility of a degree of emotional control that is less than the normal, but which is sufficient to hinder the association of

specific conation with the emotion as experienced in the waking hours; in such cases there are emotional dreams, and we may say that what is left of the control is sufficient to distort the emotion-conation association in consciousness, and what is lacking in the control is a factor in the release of the emotion during sleep. [That is, during sleep we have naturally a diminution of emotional control as compared with what obtains when awake.]

An important point to realize is the fact that the normal man, continually distorting the emotion-conation association during wakefulness, experiences no conscious strain and has no emotional dreams. We must assume that the control operative is sufficiently intense to do so outside consciousness; it operates therefore during wakefulness and during sleep. A less intense degree of control requires the reinforcement of consciousness, and therefore it is inoperative in the unconscious hours of sleep. The adjuvant action of conscious co-operation is sufficient to effect the distortion; but the dammed-back emotional tone of the conscious hours then finds release in the dream.

The terror-dream of the centrifugal dysthymia is of great utility in the investigation of the principles at work in the emotion-content of dreams, for it is sufficiently dramatic to attract attention subjectively and objectively as soon as it occurs. The majority of soldiers suffering from the terror-neurosis give a consistent history to the effect that there was no such dreaming until the occurrence of the invaliding incident; a limited number of men stated that they suffered from such dreams for a short time after they first went up the line, but that such dreams disappeared and did not reappear till the occasion of their breakdown. In this small class, the phenomenon would appear to be explicable on the ground that in the first instance their emotional control was not of requisite intensity to operate in the absence of conscious reinforcement, and that it strengthened subsequently "as the soldier became 'used' to the state of affairs at the actual front" or, in other words, as the control became sufficiently intense to operate apart from conscious co-operation.

The fact that the great majority of dysthymic patients had no terror-dreams up to the time of the invaliding incident would also seem to indicate that an intensity of control is developed considerably in excess of the requirements; undoubtedly during the period antecedent to the breakdown the control present was progressively lessening, yet in spite of this it retained in most cases its efficiency apart from consciousness.

If we take as an ideal case that of a soldier in the front line who has no invaliding incident in the ordinary sense, the probable chain of events would be as follows. At first he would go about his work

without any conscious strain ; he would naturally realize the dangers to which he was exposed and he would take necessary precautions, but there would be no consciousness of fear in the ordinary acceptance of the word. In the course of time he would find that " his nerve was going " and that he had to force himself to do his duties ; that the dangerous atmosphere in which he was living was always present in his mind. At this stage there would be the possibility of terror-dreams, which would become increasingly frequent as time went on. Finally his emotional control would disappear, and in an impulse of fear he would run away. But it must be remembered that the invaliding incident *needful* to bring about the removal of the soldier from the line progressively diminishes in its absolute value as regards its danger to life as the length of exposure increases ; towards the end of the first phase the ordinary bomb- and shell-bursts are sufficient, or the putting of the soldier into surroundings for a time where emotional control is not required of any intensity : very few men in my experience escaped such incidents so as to enter into the second phase. And such men as did do so could not under the conditions of the modern battlefield remain in it for any length of time without being invalided ; a very slight disturbance indeed being all in the way of an invaliding incident needful.

A consideration of the terror-dream, the anger-dream, and the dream of unsatisfied desire goes to show that the following factors possess positive value in their determination : (1) An emotion-evoking environment ; (2) A degree of emotional control sufficient to distort the emotion-connection association ; (3) A falling short of the intensity of such emotional control from that which is, or was, normal to the individual in atmospheres of the emotional tone concerned.

The elements of these factors, then, would appear to be emotion-incidence and intensity of control with which such incidence is confronted, and a point of practical interest is the reason for the subsidence of the emotional control. This, in part at least, is associated with the duration of the emotion-evoking environment and the intensity of the emotional tone of that environment. It would seem as though individuals possessed only a certain 'quantity' of emotional control, and that prolonged exposure to the specific emotional tone diminished that amount in proportion to the intensity of the tone. And as a further point of interest, once the intensity of the emotional control has been sufficiently lessened to conform to the manifestation of the corresponding dysthymia, it is rarely, if ever, regained in its original intensity. During the recent war, patients suffering from the terror-neurosis improved in the course of time and became apparently quite healthy ; they were able to live useful lives as long, and only as long, as they were not returned to the front.

Experience went to show that however satisfactory the cure appeared to be, such soldiers relapsed with extreme facility if returned to a fighting unit. This was especially the case with men who were too young or too old; in the former the emotional control had never properly developed, in the latter it was defective through degenerative changes, and in both subsequent reformation was defective.

Emotional control is also diminished through illness, and emotional dreams are met with in such conditions.

An interesting and somewhat different state of affairs is to be met with in the sexual dreams of puberty. In many such cases these dreams occur before the boy acquires a knowledge of sex-mechanism, and in such cases there is an absence of the specific emotional tone, and there is no emotional control as far as that tone is concerned. Yet these dreams are almost invariable at this period of life.

A consideration of the conditions shows that the essentials of the emotional dream as described above are nevertheless present. The development of the sexual glands at this time is to be taken as being associated with impulses which later are accompanied by the specific emotional tone, and which before the acquisition of this tone are associated with potential conation. The absence of knowledge of sex-mechanism is necessarily associated with a separation of such impulses from conative activity; there is no emotional control operative in the ordinary sense of the expression, but consciousness militates against the intrusion of the afferent impulses. In the unconscious state of sleep we have the characteristic dream arising out of the elements considered: The existence of an (unrecognized) emotional atmosphere; the non-fulfilment of such an emotion by the appropriate conation, and the absence of proper emotional control. In the course of time, as knowledge comes and control develops, such dreams disappear, to reappear if and when in the absence of proper gratification of the emotion by conation there is lessened emotional control from any cause.

The emotion-content of the dream is proportional to the degree of distortion of the emotion-conation association in the waking hours, and of the deficiency of the emotional control operative from the normal. This may be looked upon as the quantitative aspect of such dreams; it is important to consider the qualitative also.

Qualitatively, the emotion experienced during the sleep is the same as that subjected to distortion during the day, and this trueness to type is exceedingly constant.

In the centrifugal dysthymias there is the occurrence of centrifugal emotional tones in the dreams; the same applies to the centripetal distortion-neuroses and to the anger-dysthymias. But in the great majority of cases the correspondence is still closer; fear by

day is represented by fear in the dream, and not by disgust or anger ; sexual dreams are associated with an impeded sex instinct in the strict sense of the term, whereas the dreams of unsatisfied desire (other of course than sexual) have a similar association with unfulfilled desire experienced during consciousness. Undoubtedly centrifugal and centripetal tones are derivatives, or different aspects, of the primitive undifferentiated emotional 'driving force', academically and I think unjustifiably christened by the Vienna school as 'sexual' in a special sense ; and in this way these groups of emotional tones are related. But the relationship is in no way as close as that which obtains between the different aspects of each of these groups respectively. Fear and disgust on the one hand, and sexual (in the limited sense) and non-sexual desire on the other, are not derivatives the one from the other, but each has a common origin in the spheres of centrifugal and centripetal tones respectively. Yet it is very rare to find dreams of disgust in the terror-neurosis, or seminal dreams in the non-sexual centripetal dysthymia ; the anger-dream does not characteristically occur in any of these forms. Yet it cannot be held that conscious recognition of the emotion (distorted) as such is an essential in this specificity, for the case of the sexual dreams of adolescence is directly opposed to such a view. But, on the other hand, these sex-dreams of puberty would support the hypothesis that in so far as an emotional tone is concerned with a specific somatic mechanism for its relief in conation it obtains specific recognition in the dream. That is to say, the recognition or discrimination necessary would appear to be somatic rather than psychical. It is not possible to separate the emotional from the conative aspect of an instinctive activity, and in a retrograde manner the performance of appropriate conation reinduces the associated emotional tone, so that the emotional dream from this standpoint might be looked upon as a method of relief of the conation-energy held in check during the day ; from the standpoint of consciousness as a subliminal symptom of the disorder impending.

The emotional content of the dreams of the different functional nervous disorders may now be briefly reviewed ; they have already been touched upon in the description of the disorders themselves.

Hysteria.—In hysteria that is obtrusive there are characteristically no emotional dreams in the sense of the foregoing account, and as a rule there is no memorization of dreaming at all. Although in hysteria there is diminished emotional control, there is no separation of emotional tone from conative activity, which is manifested as the hysterical symptom. In a limited number of cases of hysteria and centripetal orientation of the ego, there may, however, be the rather

uncommon *laughing dream*, which is emotional in the sense of the above account. In this case the sleeper wakes up laughing, and such laughter may be taken as representing personal satisfaction, or freedom from any centrifugal emotional atmosphere. The intensity of joy varies inversely with the factor of worry, and the laughter of the dream is the expression of happiness arising out of a centripetally determined ego; an ego which is associated with the non-experience consciously of centrifugal atmospheres. The joy of the centripetally orientated ego is analogous to the worry of the centrifugal; neither effect has an absolute value in itself; both are integral associates of the centripetal and centrifugal determinations respectively.

The manifestation of joy in the dream implies that the dreamer has not had an opportunity of expressing to the full the happiness that he has experienced consciously; it is not that he has controlled his somatic demonstrations of joy when awake; it is rather that such behaviour as has been associated with it has not been sufficient to relieve the emotion; with the lack of emotional control characteristic of hysteria we have the appearance of such joy in the dream. It is not a common phenomenon; its occurrence indicates a centripetal orientation of the ego compatible with obtrusive hysterical behaviour.

In the event of the hysterical person having his attention consciously drawn to the idea of dreaming, memorization of the dream may occur. Such dreams are generally pleasant, and conform to the centripetal determination of the ego. They are not emotional in the sense that they wake the patient in themselves.

Instinct-distortion Neurosis.—

In the Centrifugal Dysthymia.—Here we have the terror-dream as already mentioned, and here again it must be emphasized that to be of diagnostic value such dreams must not rest on the mere statement of the patient himself; many dreams that inspire a feeling akin to fear on waking are not terror-dreams in the true sense of the expression. The true terror-dream has certain definite objective features: it wakes the sleeper with a start and often with a scream; he lies motionless for a time, with a rapidly-beating heart; there is dilatation of the pupils, pallor, and an extremely important symptom, free sweating. There is, however, a certain amount of variation of these symptoms among themselves, both as regards their association and duration. The most constant and persistent is the start on waking, and this in time may be the only indication of the dream objectively. In the usual form of the terror-neurosis the start is invariable; in the modified form which conforms to the instinct to crouch in the atmosphere of fear, it may, however, be absent. In the early phase the screaming is rarely absent when the disorder is

present in any intensity, but it is a feature which tends to subside quickly as control reappears. Moaning in the sleep, the sleeper not awaking, has not the same significance; it does not in itself indicate the terror-neurosis. The sweating on waking is an interesting symptom; it is best seen in the early stages, but it may persist into the later, and in rare cases in the terminal phase it may form the only objective symptom, the patient saying that he wakes as a result of heavy sweating. (It is possible in these cases that we are dealing with a dysthymia passing into the mnemoneurotic group.)

Pupillary dilatation is best seen in the early stages and in young subjects: together with the pallor and the tachycardia it has a certain value in assessing the intensity of the fear in the dream; such intensity varying directly with the duration of these symptoms.

The quickness with which the patient settles down and composes himself to sleep again serves as an indicator of the degree of emotional control available.

The development of emotional control is also to be seen in the gradual increase of the periods of sleep between the dream-crises as the patient improves.

A consideration of these phenomena would appear to justify the conclusion that consciousness and emotional control are intimately associated with the number and extent of the anatomical association-dispositions in activation at any time; the diminution of any one of these factors being accompanied by a corresponding diminution of the others. In the case of hysteria we have grossly defective emotional control as a whole, and the concomitants of such defect are the non-registration of certain incidents—the non-activation of association-dispositions—such as should normally occur, and the limitation of the field of consciousness characteristic of that condition. In the case of the centrifugal dysthymia we have a patient who is persistently in a state of fear, and whose emotional control as far as fear is concerned is deficient; there is a specific emotional uncontrol. Such patients show defective consciousness in the mental confusion that is characteristic of this disorder, and which is associated with lessened association-disposition activation during this phase. But these three factors, consciousness, emotional control, and association-disposition activation, do not stand towards each other in any causal relation in the commonly accepted meaning of the expression; they are associated factors only, and the correct development of these factors and the proper ratio between them is intimately associated with proper mental health. In sleep, with the natural lessening of associational disposition-activation there is diminished consciousness and emotional control, but in health, as has been mentioned, there is no abolition of emotional control; there is, of course, no abolition of

consciousness or disposition-activation in such a condition; there is a diminution only.

In the case of a patient with the terror-neurosis, a certain degree of relief of the prevalent emotional tone is afforded by the somatic symptoms of his disorder during the day, and this relief is non-existent during sleep. In the atmosphere associated with the absence of such relief, the diminution of consciousness and emotional control, there is a steady increase in the emotional intensity; an increase which in the course of time demands dynamic behaviour, as flight (in the case of the terror-neurosis); the abrupt waking and the scream may be taken as the initial signs of running away in the presence of overwhelming danger. Such behaviour, developed during the life of the individual in connexion with a multitude of associational dispositions (and thereby differing from hysterical behaviour), postulates consciousness, and its very inception is associated with consciousness. The start and the scream do not waken the patient; but the start, the scream, and consciousness are synchronous. In accordance with the severity of the disorder, the conscious state itself is liable to be impaired as far as realization of surroundings is concerned and the potentiality of emotional control; such patients are confused on waking, and make attempts to get out of bed as part of their flight-behaviour.* But in that consciousness is aroused, in that the patient 'awakes' at all, there is a reinforcement of the emotional control to some extent, and to that extent the terror-content of the dream subsides. In very severe cases of the terror-neurosis, associated with little or no emotional control, there is very little difference between waking and sleeping; the patient being described as getting no sleep at all; and the condition then closely resembles confusional insanity.

It has been mentioned in a previous section that the dysthymias arise in association with the instinct of the herd, tending to occur in people who are, relatively, maladapted as far as this instinct is concerned. The instinct of the herd is itself associated with the important factor, herd-suggestion, and such suggestion is more or less specific for each particular herd. One of the manifestations of this herd-suggestion has received the name of 'psychical censorship', a metaphysical conception emphasized by Freud. To this censorship is ascribed the displacement from the dream, as remembered, of all elements calculated to distress the individual as a member of the

* This condition must be differentiated from the somnambulistic state met with in hysterical people and which is essentially associated with limitation of the field of consciousness. Such people develop their specific behaviour as consciousness subsides, whereas in the terror-neurosis it is manifested as consciousness increases.

particular herd to which he belongs. Potentially dysthymic people, maladapted to the herd-instinct, are relatively resistant to herd-suggestion, and there is a tendency among such people to vivid dreaming in apparent health: they remember their dreams quite apart from conscious interest in dreaming as such. If such people are put into a position of imminent danger which is continuous, one of two lines of behaviour is followed: they may prove themselves utterly refractory to the operation of the herd-instinct and suffer punishment at the hands of the herd, or they may develop for a time sufficient conformity to such operation (acquired emotional control) as to obliterate memorized dreaming for that time. In the latter event the dysthymic state may be said to be incubating. Necessarily, the more youthful the individual the greater the liability to this acquired conformity. The point of interest in these cases lies in the question of treatment: in older patients there is perhaps some justification for the prevalent method of modifying the herd to the individual who has shown himself unamenable to herd-suggestion; but with young men there is no such justification, and treatment should be directed along lines which conduce to the acquisition of conformity to the operations of the instinct of the herd.

In the Anger-Neurosis.—The anger-dream has already been described under the heading of the anger-dysthymia; two points of interest were mentioned which contrast with the terror-dream. In the first place the dream in question is never as frequent as the terror-dream, and in the second it may occur quite typically without being associated with the attacks characteristic of the disorder.

Both these points are probably associated with the fact that the patient suffering from the anger-neurosis is rarely as completely disabled as the patient with the terror-neurosis; the emotion in question is not so urgent, and for the most part the individual is able to carry out her duties to a certain extent. The actual distortion of the anger-pugnacity association is intermittent: in accordance with these factors the dream is relatively infrequent. In this condition there is no sudden precipitation of symptoms, and the mnemonenrosis tends to supervene before the emotional control falls to a level in any way comparable with that obtaining in the average case of the terror-neurosis. The anger in the dream in the course of time attains an intensity which postulates consciousness, but the emotional control associated with consciousness is sufficient to modify behaviour in the majority of cases.

The absence of mental confusion in the anger-neurosis predisposes to the formation of dread and the development of the mnemonenrosis, and this disorder supervenes before the emotional control, as far as

anger is concerned, is minimal; in conformity with this, the dysthymia associated with anger is characterized by somatic symptoms which are intermittent and emotional dreams which are infrequent. The more readily a dysthymic state passes into the mnemonerotie, the more this condition of affairs is encountered; in the terror-dysthymia, with its associated mental confusion and corresponding absence of introspection, the mnemonerotie phase may be delayed indefinitely, and the patient may then suffer from a correspondingly complete exhaustion of his emotional control; such patients show continued symptoms by day, and frequent dreams.

But although the characteristic anger-dream in the anger-dysthymia is infrequent, such patients generally give a lengthy history of memorized and vivid dreaming, arising, as indicated above, in the atmosphere of their maladaptation to the instinct of the herd.

In the Centripetal Dysthymia.—Characteristically this is associated with the dream of unsatisfied desire, and although such dreams do not occur with the frequency of the terror-dream in the centrifugal dysthymia, they are more frequent than the anger-dream in the anger-dysthymia. This is in conformity with what has just been stated, for the centripetal dysthymias remain in the dysthymic phase relatively longer than the anger- and for a shorter period than the terror-dysthymia.

The essential feature of the dream of unsatisfied desire is that the dreamer is constantly endeavouring to perform some action, or to achieve some end, and is never able to carry out the endeavour to his satisfaction. The desire in such cases is intense, and the difficulty of the task is associated with a steadily increasing degree of excitement which ultimately attains an intensity inevitably associated with consciousness. Such dreams at rare intervals affect people who are apparently normal and who remain so; the mechanism in their case is the same qualitatively as that operative in dysthymic individuals, and the implication is that there has been during the day before some tendency towards the distortion of an emotion-connection association in the centripetal atmosphere. But in the non-dysthymic case the sensation of the dreamer when he awakes is just one of relief at the termination of an intolerable situation, whereas in the dysthymic dream there is always depression and often weeping on waking. To have a positive value in the diagnosis of the dysthymic dream, such depression must always be present.

There is no tendency towards dynamic action on waking, as in the centrifugal dysthymic dreams already considered.

The type of dream is well known; the dreamer is always trying to do some act against time, such as the finding of a particular page

in some huge book, the finding of a piece of music amidst a pile of sheets. Or he is struggling to catch or to escape something, his feet being heavily weighted and glued to the ground. Or, again, he is crawling along a narrow ledge in imminent danger of falling, and vainly endeavouring to pass a certain corner and to enter a window he knows to be beyond. This last dream is especially interesting, as it exemplifies a factor which is constant in all these dreams of unsatisfied desire; there is at the back of the dream, so to say, the knowledge that success in the particular endeavour, intensely desired, is attainable, and the method of such attainment is perfectly well known.

The essential feature of such dreams is the fact that consciousness is not associated with any recognition of the fantastic element of the situation, but is accompanied with depression and, as said, with weeping in the more severe cases.

The seminal dream also comes under this category, and is met with in centripetal dysthymias. Here again, in the more characteristic cases, waking is associated with depression.

In the typical centripetal dysthymic dream, fright and anger are not manifested on the waking of the patient, however apparently terrifying the dream-incidents as memorized may be. The manifestation of fear or anger on waking would render such dreams of the centrifugal order; the true centripetal dysthymic dream is associated with depression on the return of full consciousness. In other words, the actual value of the dream-incidents is less than the emotional tone with which they are associated from the point of view of the dysthymias.

Memory-Neurosis.—Mnemonerotie dreams differ sharply from the dysthymic in that their emotional content is not sufficient to awake the patient; but when he does awake in the morning the dream is remembered with quite disproportionate worry and distress, and this distress may continue for an appreciable time into the waking hours. In some cases the actual dream is not memorized, or is memorized feebly, but the worry on waking is there, and the patient describes his sleep as unrefreshing. Such dreams may be classed as 'worry' or 'confusional' dreams.

In the hyperthymic phase of the mnemonerosis, dysthymic dreaming may occur, as already mentioned; in such cases we may have typical terror-dreams and dreams of unsatisfied desire.

In the obsessive form of the mnemonerosis, a certain value attaches itself to the actual dream-incidents from the standpoint of diagnosis; otherwise they conform to the more common worry-dream as far as their emotional content is concerned.

Emotional dreaming does not in itself imply a functional nervous disorder; with the possible exception of the laughing dream, the dreams as mentioned above occur in apparently normal people from time to time. But even the occasional occurrence of such dreams indicates that there has been a distortion, during the preceding day or so, of an emotion from its appropriate conative activity, and a relative though temporary deficiency in the emotional control. The frequency with which such emotional dreaming occurs is the point which possesses value, as indicating the extent of the emotional control defect and the violence of the distortion concerned. Occasional terror-dreams in schoolboys are not to be wondered at, nor infrequent dreams of unsatisfied desire in women at the menopause; in the majority of these cases the emotional control deficiency in the atmosphere of the distorted instinct is not sufficiently intense to operate during consciousness, and symptoms of the corresponding dysthymia are not manifested during the waking hours. The natural increase of emotional control associated with adolescence and with the subsidence of the physical abnormalities of the menopause is associated also with disappearance of such dreaming, but at the same time such people require a certain amount of attention in the assurance of the development of this control, for in them we certainly have the elements of a dysthymic condition. It is very difficult to overestimate the importance of emotional dreaming from the point of view of functional nervous disorders, both as regards diagnosis and prevention.

THE INCIDENT CONTENT OF THE DREAM.

It has been sufficiently emphasized above that whereas the emotional content of the dream has a very great importance from the standpoint of prevention of impending functional nervous disorders, and their diagnosis when present, the actual incidents about which the patient dreams have no such value in the majority of cases; a reservation has been made, however, in respect of the obsessive form of the mnemonurosis. But apart from this group of cases, as far as clinical medicine is concerned, the incidents of the dream are of purely secondary importance; their interest is academic only. It does not matter what the patient is dreaming about; if he wakes up with a violent start and screaming, he has the terror-dream, and this however apparently peaceful the dream-incidents may be. The use of the name 'battle-dream' is to be deprecated; for patients may have persistent terror-dreams and never dream of fighting at all. The seminal dream again may occur in a setting the incidents of which are not apparently sexual; the emission occurring at the climax of

a race, during a battle charge, hunting for a particular page in a book, and so forth ; yet its significance as a sex-manifestation is undoubted.*

Academically the dream-incidents are of interest, for however harmless the terror-dream may appear to be as memorized, a careful inquisition into the associations of such incidents, direct and collateral, will inevitably reveal a connexion between them and dispositions activated in an atmosphere of a centrifugal emotional tone ; and the same holds good, *mutatis mutandis*, for the other emotional dreams. It is unnecessary to emphasize the fact that each individual is a law to himself as far as such connexions are concerned, and that the same incident in the dreams of two people need have no similarity in their ultimate associations ; unfortunately, however, there is a tendency among certain psychologists to attach what may be called an absolute value to certain dream-incidents and situations independent of the individuality of the dreamer. The attachment of such an absolute value, universally applicable, is unjustifiable and dangerous, and conducive to empiricism in its worst form. The primary exotic associations themselves, intelligible as they are to the majority of mankind, are never inevitable, and a very cursory investigation into any form of dream brings us quickly into the secondary associations, which are purely personal and therefore peculiar to the individual. The value of any particular incident or situation of the dream must be assessed with reference to the psychical context of the individual ; it is an absolutely unknown factor until such reference has been made.

Not only, however, in certain schools of psychology has there arisen this tendency towards empiricism, but among such schools the emotional atmosphere associated with dreaming is represented as being, to all intents and purposes, invariably sexual. The more emotional the dream, the more certain is the sexuality of its content, regardless of the form in which the emotion appears. In other words, the psychical censor not only displaces the incidents of the dream, but also metamorphoses the emotional content.

As mentioned above, the specific instincts and their emotional aspects, as manifested throughout the animal world as at present constituted, are to be looked upon as arising out of what has been called a primitive undifferentiated emotional driving power inherent in all living matter ; any emotion appearing in the dream is a derivative of this power, and if this power be re-christened 'sexual' without any further implication, then it may be safely said that all

* As explained above, dysthymic patients and people who are potentially dysthymic are relatively less liable to the normal displacement by the operation of herd-suggestion or psychical censorship ; and there is a *tendency* in such people (but it is not more than a tendency) for the incidents of the dream to accord obviously with the emotion concerned.

and every emotional manifestation is of sexual origin in this sense, but in this sense only ; and the only legitimate ground of complaint would be the quite unnecessary complication this nomenclature originates, for the word sexual has, of course, quite a different meaning and is properly applied to one, and one only, of the derivatives of the undifferentiated emotional force. But unfortunately the exponents of the Vienna school of psychology, while emphasizing this indifferent application of the name 'sexual' as a cardinal principle, invariably give the impression in their published works of sexuality in the limited sense, and generally in a very limited sense indeed. Not only are empirical values attached to specific incidents, but such values are for the most part phallic, conceptions which are in their essence unscientific.

From the standpoint of clinical medicine, that is to say of diagnosis, prognosis, treatment, and prevention, a detailed analysis of the dream-incidents is unnecessary and not without risk. An abnormal emotional content indicates an emotion-conation distortion during consciousness, and in the great majority of cases it is not referable to any one specific incident, but to the atmosphere in which the patient has been living for a considerable time and which is for the most part obvious. In hysteria, where we have behaviour associated with a specific incident in the environment of determination, we have also a non-registration of that incident psychically, and no amount of analysis can discover it, although categorical statements based on this assumption may be associated with temporary improvement.

But in the obsessive form of the mnemoneurosis we have abnormal behaviour developed in association with a specific incident which was registered at the time of its occurrence, but which has been subsequently forgotten ; the recovery in memory of such an incident is an important element for the effecting of a permanent cure. For this purpose detailed dream-analysis is equally important ; the obsessive group of the mnemoneurosis is, however, the only functional nervous disorder of which this can be said.

The mechanism of this condition has already been discussed ; broadly it may be said to affect people in the environment of adjustment who have been centrifugally orientated in that of determination, and is dependent upon the activation of associational dispositions in the atmosphere of a centrifugal emotional tone around an incident completely registered at the time of its occurrence in association with an emotional tone of the same order but of less intensity ; the incident in question is 'forgotten' by the relative inattention so formed.

The number and extent of the secondary associations activated may be great, and may ultimately impinge upon most of the normal

activities of waking life ; in such cases there is persistent depression, which is incomprehensible to the patients and which, being by them acutely realized, is subjected to a conscious control of considerable intensity. In sleep, however, this intensity diminishes ; and in that somatic action is necessarily in abeyance, we have a progressive 'quantitative' increase in the emotional intensity ; and associational dispositions, rendered inactive through relative inattention, are liable to be reactivated. Such reactivation does not necessarily bring the incident as such into the dream as memorized, but the memorized details of the dream are liable to bear a more direct relation to it than any detail available through conscious memory, and the careful and frequent analysis of many dreams in such people enables us to approach sufficiently close to the central incident for the patient to be able to recall it completely in memory.

The greater the extent of the secondary associational dispositions concerned in these cases, the more the liability for them to touch upon the different conscious activities of the patient ; the greater the tendency for the performance of these activities to be associated with a retrograde emotional tone of the centrifugal order. The greater part of the life of such a patient is thereby coloured with this tone ; he is constantly depressed in a manner which is utterly incomprehensible to him, but the very performance of these activities tends to the relief of the emotional tone associated with them. In other words, his daily activities are accompanied by an exacerbation of the prevalent emotional tone, and by its relief to a certain extent. In sleep the exacerbation is relative, and is associated with the diminution of conscious control ; it occurs, however, and is not associated with somatic relief in any form, and to this extent we have the accumulation of the emotion-content in the sleeping hours operative in the reactivation of the initial incident.

It follows, therefore, that the dreams best suited for analysis in the mnemon neurosis are obtrusively emotional ; they need not necessarily waken the patient as in the case of the dysthymic dream, but they are associated with worry and profound depression on waking in the morning. The patient should be encouraged to memorize his dreams ; he should record them immediately on waking and indicate the prevalent emotional tone as he memorizes each incident. The incidents are then taken seriatim and are examined by a process of cross-examination, the patient as he replies being carefully watched for any signs of distress or confusion. If necessary, such incidents may be dealt with by the associational method already described ; but, in my experience, recovery of the initial incident through the dream is generally possible by means of direct questioning along the lines of the incidents as memorized.

But, as mentioned above, and as will be dealt with later, the actual discovery of the initial incident, though an essential factor in the treatment, is not the only factor, for synthesis of the incident into the normal stream of consciousness is of fundamental importance as regards the permanence of the cure.

SUMMARY.

1. From the standpoint of clinical medicine, two aspects of the dream are of value: the emotion content and the incident content. By emotion content is meant the experience of an emotional tone by the individual in the dream and its recognition as such by him on waking.

2. The emotional control of normal men is operative during sleep, and a relative increase in its intensity during consciousness is associated with a proportional increase for a time during sleep.

3. The emotion content of the dream is proportional to the degree of distortion to which an emotion-conation association has been subjected during consciousness and to the deficiency of the emotional control operative from the normal.

4. The emotional tone experienced in the dream is the same as that subjected to distortion during the day.

5. Given that an emotional tone is concerned with a specific somatic mechanism for its relief in conation, it obtains specific recognition in the dream.

6. Clinical hysteria is not characteristically associated with emotional dreaming, but the laughing-dream, when it occurs, typifies centripetal determination of the ego.

7. Of the dysthymias, the terror-neurosis is associated with the terror-dream, and this association is inevitable. To possess diagnostic value the dream must show certain objective characteristics, and must be of frequent occurrence.

The anger-neurosis is correspondingly associated with the anger-dream. This need not be accompanied by objective signs, though it may be; it is not of such constant occurrence as the terror-dream in the terror-neurosis.

The centripetal dysthymias are characteristically associated with dreams of unsatisfied desire; in those which arise out of the sex instinct there are seminal dreams.

8. The laughing-dream and the dysthymic dreams are incompatible with the continuation of sleep.

9. The ordinary form of the mnemononeurosis is associated with worry- or confusion-dreams, and the emotional tone concerned is of an intensity compatible with continued sleep. The obsessive form

of the mnemoneurosis is liable to the same emotion content of the dream as in the ordinary form.

10. The incident content of the dream attains clinical value in the obsessive form of the mnemoneurosis only.

11. The importance of the incident content of the dreams of the obsessive mnemoneurosis arises out of its value in the recovery of an incident forgotten through relative inattention, the recovery in memory of such an incident being an important associate of the resolution of the disorder.

12. No empirical value can be attached to the incidents of any dream ; such value as they possess is only to be assessed with reference to each individual's psychical context.

13. Emotional dreams and dream-incidents are only universally sexual if the term is made to cover all emotional activities, centripetal, centrifugal, premonitory, and derived. Used in this sense, the word has little value and is confusing ; certain dreams are sexual in the ordinary acceptance of the word, whereas others are not.

CHAPTER XIII.

MISCELLANEOUS CONSIDERATIONS.**THE RÔLE OF THE SEX-INSTINCT IN THE FORMATION OF
FUNCTIONAL NERVOUS DISORDERS.**

THE importance of the sex-instinct in the determination and adjustment of functional nervous disorders has been very much to the fore of late, and has been emphasized by Freud, of Vienna, and supported by a large body of opinion on the Continent and in America. In England the Freudian conceptions have encountered opposition, and the predominating influence of sex in this connexion has not been accepted. Much of Freud's work on the psychical mechanisms is of the greatest value, and must of necessity receive recognition as such; it is the invariability of the association between sexuality and functional nervous disabilities that lends itself to criticism, and however 'unsexed' the Freudian conception of sexuality may be in theory, in practice the emotion implied is sexuality in the common acceptance of the word. As McDougall points out, in that the phenomena of sexuality present for consideration perceptive, affective, and conative aspects, sexual activity resembles the other instincts from the psychological standpoint; it also resembles them from that of clinical medicine. It is certainly illogical to establish all functional nervous disorders upon a sexual basis; it is equally illogical to refuse to recognize such a basis as a possible factor in their formation. Sex in the common meaning of the word plays a very important part in these disorders, an importance which necessarily varies with different communities and different herd-suggestions; it does not play a universal nor even a preponderating rôle as compared with the other instinctive activities among English communities, and in no community has it a specific value in its own self as compared with the other instincts in the determination and adjustment of these conditions.

Ordinary sexuality, normal and perverted, is capable of operating as a determining factor in both the regressive and progressive neuroses: it may be associated with the hysterias, the anger-neurosis, the centripetal dysthymias, and the mnemoneuroses. It is not directly responsible for dysthymic conditions of the centrifugal order, and its

rôle in the hysterias is rather indirect than direct, through the centrifugal emotional tones with which it is liable to be associated.

In the atmosphere of sex we may have *sex-horror*, *sex-hunger*, and *sex-worry*, and in accordance with such horror, hunger, and worry, we have the possibilities of hysteria, dysthymia, and the mnemoncrosis respectively.

The Sex Factor as an Element of Hysteria.—Primary and tertiary hysterical manifestations may both be evolved in a sexual atmosphere; secondary hysteria may also be formed out of the sexual instinct, but it is very rare.

Primary Hysterical Manifestations Associated with Sexuality.—In the event of the primary specific incident in the environment of determination being of a sexual nature and being associated with a centrifugal emotional tone, we have the non-registration of the central event with perpetuation of the somatic associations evoked at the time. If and when in the environment of adjustment a centrifugal emotional tone be experienced of the requisite intensity, these associations are liable to be manifested as hysterical behaviour. Thus, we may take the case of a child who is being evolved in an atmosphere conducive to deficient emotional control as a whole, and who is subjected to a criminal assault of a sexual nature. The terror associated with the occurrence is also associated with transference of the emotional disturbance *en bloc* as already described; there is limitation of the field of consciousness and non-registration of the incident. The associations activated at the time—screaming, struggling, adduction of the thighs, adduction of the arms, secondary exotic associations of all forms—some or all of these are ‘set’, and in the environment of adjustment we have corresponding behaviour as a form of hysterical ‘fit’; we may have agoraphobia or claustrophobia; or behaviour determined by purely personal associations in the secondary exotic group. The early manifestations in the environment of adjustment are accompanied by the characteristic limitation of the field of consciousness; later we have persistence of the symptoms as expectant or tertiary hysteria.

Such an event may also lay the basis of certain of the behaviour elements of a dissociated personality.

Tertiary Hysterical Manifestations Associated with Sexuality.—In accordance with the secondary somatic and secondary exotic associations formed by an individual who has been evolved in the environment of determination conducive to hysterical behaviour in after life, different illnesses, accidents, methods of treatment, and so forth, affecting any of the body regions, may be associated with the idea of imminent danger to the sexual apparatus; we have in such

people protective muscle-spasms of the tonic variety, formed in the sphere of protection to the part or parts endangered—in this case the genitalia. Tonic adductor spasm of the thighs may arise thus; we may have complex attitudes, the essence of which is the protection of the sexual organs from impending danger. In accordance with the extent and number of associations impinging upon the ones activated upon the sexual apparatus, we have the possibility of the most diverse and *outré* exciting causes for the spasm in question; the underlying principle is the same in all, however, and such associations, activated in a centrifugal emotional atmosphere as far as the sex-elements are concerned, are associated with inevitability of behaviour when re-activated in sufficient intensity in association with an emotional tone of this order. These factors—associational dispositions in the sphere of the sex apparatus, and inevitable behaviour appropriate to a centrifugal emotional atmosphere—are associated with hysterical behaviour of the tertiary variety in the environment of adjustment when that emotional tone is evoked in requisite intensity.

Tertiary hysteria in the sphere of the sexual apparatus may also be manifested in a reverse fashion. In the case of a boy, centripetally determined, who has formed association between the mouth and the genitals, any incident in the environment of adjustment which implicates the genitals in a sufficiently powerful centrifugal emotional atmosphere is liable to be followed by tertiary hysterical manifestations in the sphere of the mouth. We may have tonic spasm of the orbicularis oris; trismus; involuntary application of the hand to the mouth; unwillingness to put food into the mouth, and a form of anorexia nervosa.

Secondary Hysterical Manifestations Associated with Sexuality.—The sex-instinct is not characteristically involved in manifestations of secondary hysteria, but such involvement is possible and the condition resulting is complete hysterical impotence. It is not that the patient in states of sexual excitement is unable to obtain an erection, or that the erection obtained passes away before the act can be completed; impotence of this nature, when functional, is rather of the mnemoneurotic than the hysterical order; it is that the patient has no sexual desire at all. The condition is strictly analogous to anorexia nervosa in its true form as already considered under secondary hysteria, and it is rare. The usual precursor of secondary hysterical manifestations, discomfort in the region associated with the part subsequently the site of the symptom, is, in the case of the sexual apparatus, more likely to be followed by anaesthesia than by psychical impotence; but if the sexual apparatus dominantly be associated in the mind of the patient at the time with sexual desire, then, in the event of a centrifugal emotional tone of sufficient intensity being

experienced at such a time, secondary hysterical impotence may occur. The secondary hysterical anæsthesia affecting the region of the external genitals may be accompanied by a form of impotence in the atmosphere of expectation induced, but the psychical desire in these cases is present: they are not in themselves manifestations of secondary hysteria in the sphere of sexuality, but in one of a centrifugal emotional tone through the operation of pain. In the true form of secondary hysterical impotence we have the manifestation of the condition in association with a centrifugal emotional atmosphere, certainly, but an atmosphere which is itself associated with sex and not with pain. In the event of a sexual situation being associated with such an emotional tone in sufficient intensity, then this true secondary hysterical impotence may occur; such situations are not of common occurrence and the condition in question is rare.*

The Sex-Instinct and its Association with the Dysthymias.—

The sex-instinct is not to be found as a factor at all in the evolution of the centrifugal dysthymia. As already indicated, it plays a part in the anger-neurosis, but a contributory part only.

In the discussion of the anger-neurosis, it was pointed out that the conjugal relationship obtaining invariably formed an element in the atmosphere responsible for the disorder. It is not in such cases that there is necessarily too much or too little sexual gratification, though this quantitative factor may in some cases be operative. Rather it is a qualitative defect that is generally present, and which renders matter-of-fact and commonplace a relationship which the patient thinks should be invested with solicitation and romance. In so far as such an atmosphere is wanting, there is an absence of proper or complete sexual gratification; and in its essence the sex factor of the anger-neurosis is a sex-hunger.

In the centripetal dysthymias the sex-instinct plays an important part, and we may have a specific sex-neurosis forming in the atmosphere of deprivation of gratification. Such patients are strongly orientated sexually; the circumstances in which they live militate against appropriate coition, and we have typically an instinct-distortion neurosis in the sphere of a centripetal emotional tone. In these cases it is definite sexual relationship that is desired; other forms of centripetal dysthymia are indirectly associated with sex, and the desire for children is one.

* Not long ago there was, in the Manchester City Coroner's Court, the case of a man who had died while in the act of coitus. Given that his partner were centripetally orientated, such an occurrence would fulfil the requirements for the formation of this form of hysterical impotence.

In the centripetal dysthymia of sexual evolution there is complete sex-hunger; the sex defect is not qualitative as in the anger-neurosis, but entirely quantitative.

This specific sexual centripetal dysthymia is not very common; its outstanding symptom is depression of quite exceptional intensity, and which, often enough, is not thoroughly understood by the patient. It resembles superficially in this respect the obsessive form of the mnemoneurosis, with which it is often confused.

Perverted sexuality is sometimes a factor in the true sexual dysthymia; such people are unable to obtain any gratification by legitimate means, and are restrained by fear of consequences from indulging in their homosexual tendencies. They live a life of compulsory abstinence from sex-gratification, and the result is liable to be the true specific sexual centripetal dysthymia.

As regards the dysthymias then, we may say that the sex-instinct plays an important part in those arising in the atmosphere of centripetal emotional tones, and an essential part in one of them. This one group is the only one of all the functional nervous disorders in which the operation of the sex-instinct as such is necessary.

The Sex-Instinct and its Association with the Mnemoneuroses.

—As met with in practice, the influence of sex in the formation of functional nervous disorders is to be seen most frequently in those of the mnemoneurotic group; the majority of mnemoneurotic cases, however, are not based on the sex-instinct.

In the cases that are, the factors at work are sex-worry and sex-dread; both the simple and the obsessive forms are capable of adjustment in these atmospheres.

In the event of there being any worry or doubt as to the ability to perform the sexual act, the performance is liable to be imperfect; such imperfection on one occasion reinforces the doubt, and the patient becomes functionally impotent. But such cases differ from those already considered as manifestations of secondary hysteria in that the sexual desire is present; and in the absence of actual coitus, efficient erection is obtainable. The keynote of the condition is the doubt of efficiency; the impotence induced brings about the mnemoneurosis through the operation of worry primarily and dread secondarily. The *modus operandi* of the doubt would appear to be the objective attitude of the patient at the time of congress; in a manner he may be said to stand outside himself and to adopt a critical attitude towards his own performance, an attitude which is entirely subversive to efficient coition. In other words, we have in such circumstances an abnormal diffusion of attention instead of the intense concentration associated with proper performance of the act; a diffusion of attention (emotion)

which throughout all animal activities is hostile to energetic somatic performance.

The functional disabilities which may be associated with homosexuality and auto-eroticism are characteristically of the mnemonerotie order. A boy may masturbate to excess, but as long as he does not worry over the vice and is free from dread, he will not develop a functional nervous disorder in its association. On the other hand, if he persist in the habit, worry and dread are of inevitable occurrence when he comes to mix with other men. In the event of such a boy being centrifugally determined, the incidence of a functional nervous disorder is then merely a question of time: even in the absence of such orientation he is liable to have periodical attacks of depression or moodiness, which may be looked upon as the shadow of the mnemonerosis and which vary in proportion to the centrifugality of the orientation. Masturbation in boyhood is not necessarily harmful from the standpoint of the development of a functional nervous disorder; the risk lies in the danger of the habit being kept up into manhood, when worry and dread in its atmosphere are of invariable occurrence. It must, I think, be admitted that the attitude commonly taken by schoolmasters, parents, and others in this respect is unsatisfactory; impressive warnings as to possibilities—not always justified—not only lay the foundation of future dread, but, and this perhaps is the more important, they induce a sense of hopelessness in the boy at the time which militates against his attempting to break himself of the habit. He gets into the way of thinking that as far as he is concerned the mischief is done, and that it does not very much matter whether he continue with his vice or not. The incentive to break himself of the habit is taken away, and it persists into adult life, when it is very much more difficult to control and when dread is of certain occurrence.

The same principle applies to the homosexual individual; in the course of time he realizes his abnormality as an abnormality, and the inevitability of social ruin inherent in exposure: exposure being, of course, always a possibility from the nature of the abnormality. It is always impending; he lives in the course of time in a constant atmosphere of dread. In his case the dread is of social destruction: in that of the masturbator it is of impotence and the various terrors commonly attributed by uninstructed persons to the vice. The warnings and disciplinary measures which these people as children are liable to be subjected to tend to the centrifugal orientation of their egos in themselves, and such orientation renders subsequent mnemonerotie symptoms inevitable.

The sexual instinct is also a possible factor in the evolution of the obsessive form of the mnemonerosis; the initial incident being

of a sexual nature and subjected to the superimposition of centrifugally activated associations. Amnesia through relative inattention results, with abnormal and uncomprehended behaviour in the environment of adjustment.

Summary.—To summarize, then, we may say that the sex-instinct, using the term in its commonly accepted meaning, is capable of playing a part in the evolution of all the different functional nervous disorders with the exception of the centrifugal dysthymia, and that it plays an essential part in one of them, the sexual centripetal dysthymia. For the most part the disorder arising in a sexual atmosphere is the mnemon neurosis, through the operation of worry and dread. Among English people, at any rate, the sex-element is not the most common component of any of the three great groups of functional nervous disorders.

If we consider the part actually played by sex in these different conditions, we see that, with the exception of the specific sex-dysthymia, sex, as sex, does not play any part at all, but only in its capacity of exciting other emotional tones—horror, desire, and dread. In the sense that desire which is not apparently sexual is a direct derivative of the sex-instinct, then all the centripetal dysthymias bear a relation to it; and equally, in the sense that all emotional activity is derived from a non-sexual sexuality, then all functional nervous disorders are of ‘sexual’ origin. But it is not proposed to adopt this exotic form of terminology, especially as there is undoubtedly a specific sex functional nervous disorder in the strict and commonly accepted sense of the word. It is enough to say that sex is capable of playing a part in the formation of these disorders, and that there is one in which the operation of this instinct is essential. Necessarily the proportion of sex-determined disorders will vary with different herds.

TRAUMA AND THE FUNCTIONAL NERVOUS DISORDERS.

Traumatic incidents are capable of playing a part in the determination and precipitation of all forms of functional nervous disorders; the *modus operandi*, however, differs in different cases. They may assume value in some cases through the intensity of the emotional tone with which they are liable to be associated; such value is direct and indirect according as to whether the actual incident be associated with a centrifugal tone of sufficient intensity, or as to whether pain, resulting out of such an incident, be so associated. In other cases they are operative through the diminution of emotional control, for which they are, in part, responsible; the diminution may be merely completed by the traumatic incident, or it may be largely

developed in its atmosphere through the intervention of subsequent pain and invalidation. In the former of these two rôles the specific incident need not necessarily be associated with any high emotional intensity.

Hysteria.—Trauma may be responsible for an atmosphere conducive to centripetal orientation of the ego through the invalidism it is liable to bring about; the child in such an atmosphere being pampered and deferred to. Such an environment, in addition to the defect of control of emotions as a whole, is also liable to be operative in the determination of subsequent tertiary hysterical manifestations: associations in the atmosphere of a centrifugal emotional tone being formed between different regions of the body with each other and with such accessories of the sick room as splints, disinfectants, utensils, and so forth. Tonic protective muscle-spasms of the tertiary hysterical order are liable to be determined in an atmosphere of this nature.

In the event of the injury itself being associated with a centrifugal emotional tone of sufficient intensity, it may act as the primary specific incident in the determination of subsequent primary hysterical manifestations in the environment of adjustment. If, on the other hand, the injury be associated with pain which, from the point of view of the sufferer's centripetal orientation, is not effective in modifying the existing environment, and which does not in his opinion receive proper attention, then secondary hysterical symptoms may be manifested.

Traumatic incidents in the environment of adjustment are operative in the precipitation of primary and tertiary hysterical manifestations already determined, by the centrifugal emotional-tone content with which they may be associated.

Therefore it may be said as regards hysteria that traumatic influences possess a positive value:—

1. In that they are conducive to the formation of an environment of determination which predisposes to lack of emotional control as a whole and centripetal orientation of the ego.

2. In that, in the environment of determination, they may be associated with a centrifugal emotional tone of sufficient intensity to render such accidents primary specific incidents out of which primary hysteria is manifested in the environment of adjustment.

3. In that, also in the environment of determination, they may invest certain secondary somatic associations with an inevitability of behaviour which constitutes tertiary hysteria in the environment of adjustment.

4. In that, in the environment of adjustment, they are liable to be associated with an emotional tone of the centrifugal order and of

sufficient intensity to precipitate primary and tertiary hysterical behaviour determined in that of determination.

5. In that, in the environment of adjustment, they are liable to be associated with an atmosphere which, in the event of the patient being centripetally orientated, is conducive to the manifestation of secondary hysteria.

The Dysthymias.—The influence of trauma on the incidence of the dysthymias is almost exclusively exerted through the diminution of emotional control with which it is liable to be associated, and the so-called ‘traumatic neurasthenia’ arises in this way. Necessarily, of course, the longer the period of distortion in the emotion-conation atmosphere that has preceded the particular accident, the slighter need the traumatic incident be; in such cases it merely completes the atmosphere of deficient emotional control; it acts as the “straw that breaks the camel’s back”. On the other hand, serious accidents may break down an emotional control that was not, up to the time, gravely defective. The actual traumatic incident in these cases has no specific value in the precipitation of the dysthymic condition; it acts by virtue of its centrifugal emotional-tone content.

It is also possible for traumatic influences to exert a more direct effect in the formation of these disorders, in the event of the disability to which they give rise in itself impeding the proper association between an emotion and its appropriate conative activity. Given that an individual who is strongly orientated in a certain direction is prevented through some accident from carrying out his desires, then in the course of time a centripetal dysthymia may be brought about: these cases, however, hardly fall into the sphere of functional nervous disorders, although their symptomatology may be functional.

The lack of emotional control associated with traumatic incidents is commonly to be seen in the induction of the hyperthymic state; this is all the more likely if the patient be approaching, or in, the involutionary period of life.

The Mnemoneuroses.—In these disorders, trauma acts exclusively by virtue of its action in diminishing emotional control; the patient who has been living in an atmosphere of worry and dread and thereby impairing his control, breaks down into obtrusive symptoms when subjected to traumatic influences. This applies equally to the obsessive and the ordinary form of the disorder in question; only in the former the resulting behaviour is likely to be the more striking; such patients who, up to the time of the accident, controlled their obsessive fears, being no longer able to do so, and manifesting uncomprehended abnormal behaviour and consequent severe depression, which appeals

to the bystander as alienistic, and often enough to the patient himself as such, thereby increasing the intensity of his dread.

In the obsessive form of the mnemoneriosis, also, the superimposed elements of dread may themselves lie in the direction of trauma, in which case traumatic incidents have an increased value.

CONGENITAL DETERMINATION AND THE FUNCTIONAL NERVOUS DISORDERS.

The question of the relation which functional nervous disorders bear to congenital abnormalities is of interest; there are not lacking psychologists who maintain that the sufferers from such disabilities are "born and not made".

By the terms of the definition already discussed, gross and demonstrable congenital abnormalities are incompatible with functional nervous disorders as such; such functional symptoms as are manifested are neither determined nor adjusted by environment; environment plays a negligible rôle in their genesis. It would be wrong, for example, to diagnose hysteria in a microcephalic idiot or a mongol, however hysterical their behaviour may at times appear to be. Such behaviour is to be considered as forming part of the symptomatology of an organic disorder; as a manifestation of disordered function in the atmosphere of abnormal structure.

But we have seen, as regards hysteria, that there exists a wide range of variation in intelligence among those who suffer from obtrusive symptoms, and that in people who never manifest clinical hysteria, much in their psychology is hysterical in type. In addition, hysterical people as such, though varying among themselves in their intellectual powers, are as a class less intelligent from the standpoint of constructive intellectuality than those who are not so orientated. An instructive feature during the recent war was the number of hysterical patients who, though not definitely mentally defective in the common sense of the words, were extraordinarily objective as regards their associational dispositions, almost all of which were of the primary type; who were dull, and best described as 'animal' in type. Such patients showed marked difference from the quick superficial 'smartness' of other hysterical patients, just as these latter did from the true, constructively intelligent man of normal psychology.

A consideration of these points, and of the idea that hysterical behaviour in man is a derivative of the normal behaviour of the non-human animal, would lead to the conclusion that whereas hysteria is not necessarily associated with a congenital defect, the existence of some such defect predisposes to hysterical behaviour. In the event of the defect being sufficiently marked, such behaviour cannot be

considered as due to hysteria in the true sense, but if it be evident only on careful examination (into the different associational dispositions), then, in the present state of our knowledge of the finer anatomy of the nervous system, such a diagnosis is justified.

This congenital defect must be differentiated from the mental 'backwardness', which may be an outcome of a thoroughly bad environment of determination; the fact that hysteria during the war tended to affect, for the most part, the non-commissioned ranks, has already been mentioned. An inquisition into the details of the environment of upbringing will usually serve to distinguish the two classes, the congenital mental defective and the man who is defective through lack of opportunity. The clinical outcome of the two conditions is liable to be the same: lack of emotional control as a whole.

It is impossible to establish such finer degrees of mental defect on an anatomical basis that can be objectively verified in the present state of our knowledge, but as an hypothesis the number and extent of associational dispositions available at birth and subsequently activated in the environment of determination might perhaps be taken as an essential factor. In the case of the microcephalic idiot we have an absolute deficiency in such dispositions, manifested objectively as dementia; a condition incompatible with hysteria, properly so-called. Given that we have a relative deficiency, then we have an individual who, for the most part, behaves normally; who is not obviously demented; but who, in that his associational dispositions are relatively fewer than normal, is proportionately liable to the non-diffusion of centrifugal emotional tones associated with hysterical behaviour. In so far as his deficiency be not manifested as dementia, just so far may his hysterical behaviour be diagnosed as the outcome of hysteria, but such a diagnosis is necessarily dependent upon the inability to establish the condition upon an anatomical basis; we have no criterion for the objective assessment of a relative deficiency in available associational dispositions as compared with the normal.

If, however, an individual be supplied with the normal content of associational dispositions at his birth, and be brought up in an environment of determination conducive to the lack of emotional control as a whole, then, in the atmosphere of non-diffusion of the emotional disturbance associated with such an environment, we have a certain number of such dispositions which are not activated in the environment of determination; or rather, we have a certain number of dispositions which have not responded as they should have done to an emotional atmosphere with which they have at certain times been associated. The person of this class is hysterical in the true sense of the word; he is only mentally defective at the time of occurrence of the environment of adjustment in so far as his available content

of experience is defective as compared with the situations in which he has been placed. But in that he does possess these associational dispositions, he possesses the potentiality of their activation, and the true hysteric, as he settles down in the environment of adjustment, or as he is made the recipient of correct treatment, may be said to outlive his hysteria, emotional control being gradually gained in the more indifferent environment of adjustment, and such associational dispositions being, in the course of time, activated. On the other hand, the apparent hysteric, who in reality possesses a certain degree of mental defect, which is not obvious in his behaviour as dementia, does not do this; his associational dispositions, being relatively defective, are nevertheless defective, and therefore incapable of activation in the adjusted environment; also, the environment of determination in such people need not possess any very high degree of defect for the manifestation of hysterical symptoms in later life. It would appear to be probable that men who are hysterical in early manhood, and who continue to manifest their symptoms in later life, are of this class, and are in reality cases of mental defect; in so far certain cases of hysteria may be said to be congenitally determined. But, as mentioned above, such a diagnosis is in reality only a concession to ignorance of fine anatomy; with more accurate methods of investigation it may be possible in the future to discriminate these patients, and to class them, not as cases of hysteria, but of mental deficiency.

As regards the dysthymias and the mnemoneuroses, congenital determination as far as structural defects are concerned may be taken as non-operative. It is true that in the anger-neurosis a family history of alienism is frequently to be found: this factor is certainly operative in that it reinforces the element of dread and the occurrence of the mnemoneurosis thereby. It cannot be said, however, that the children of mentally unstable parents are *ipso facto* more liable to the incidence of any of the functional nervous disorders than those who give no such history; once such a disorder has occurred, however, the transference to the mnemoneurosis is all the more speedy through the additional factor of worry. The same obtains, though to a less degree, in the case of the centripetal dysthymias, and of course the mnemoneurosis is intensified in the event of there being anything in the family history which is conducive to worry on the part of the patient.

At the same time these conditions, the centrifugal and centripetal dysthymias and the two forms of the mnemoneurosis, are commonly encountered in people whose family history contains no such factor; it would appear as though the presence of it acts not in the determination of these conditions, but in their adjustment from the point of view of the incidence of the terminal phase.

It must be remembered, of course, that the children of parents who themselves are abnormal are all the more likely to be brought up in an exotic environment of determination, but in these cases we are not dealing with any congenital determination of necessity.

Summary.—To summarize the operation of congenital determination in the evolution of the functional nervous disorders, we may say that :—

1. Hysterical processes are to be recognized in mentally defective people, but in that such people are mentally defective they cannot be said to suffer from hysteria, properly so-called.

2. True hysteria can only be diagnosed in patients whose mental equipment at birth is normal.

3. Arising out of (1), and owing to the impossibility of ever establishing (2), cases have to be recognized as hysteria clinically in that their behaviour is hysterical and they do not show obtrusive mental defect. The possibility of congenital determination in these cases cannot be eliminated.

4. Congenital determination, from the standpoint of structural defect, is non-operative in the sympathetic group of the functional nervous disorders.

5. Ancestral mental instability has probably no other effect in the evolution of the sympathetic neuroses than intensification of their symptoms when they have occurred, and precipitation of the incidence of the mnemoneurosis as a terminal phase.

THE FUNCTIONAL NERVOUS DISORDERS AND PAIN.

In this connexion, pain has to be considered from two aspects : its influence on the precipitation of these conditions, and its occurrence as a symptom of them when they are established.

Pain as a Factor in the Precipitation of Functional Nervous Disorders.—In centripetally orientated people the occurrence of pain is of importance from the standpoint both of secondary and tertiary hysteria ; it has not the same value as regards the primary group.* It has already been seen that secondary hysterical symptoms are always developed in an atmosphere of pain, but it would appear probable that the rôle it plays in such manifestations is indirect for

* It is theoretically possible for pain to be associated with a centrifugal emotional tone of sufficient intensity to be accompanied with non-registration of certain incidents in its atmosphere in the environment of determination and with primary hysterical manifestations in that of adjustment. Such a state of affairs, however, would appear to be exceptional in actual practice.

the most part. Pain that is associated with an immediate environment displeasing to the patient—that is, with a line of treatment unacceptable to his centripetal orientation—is operative in this respect, and only too often is the environment acceptable brought about thereby. The pain that necessitates prompt invalidism and dramatic treatment, that makes the individual the centre of interest, is not as a rule associated with secondary hysteria; but is liable to be responsible for the activation of associational dispositions of the secondary somatic order in a centrifugal emotional tone, which subsequently form the basis of tertiary manifestations.

In the environment of adjustment, pain may be a factor in the formation of a centrifugal emotional tone of sufficient intensity to bring about a primary hysterical crisis, but here again it is not so much pain, as pain, that is liable to be so operative, as the emotional atmosphere with which it is associated.

As regards the dysthymias and the mnemoneuroses, pain possesses value in their precipitation in proportion to the diminution of emotional control with which it is associated. As we have seen, an environment of determination which possesses a constant emotional-tone atmosphere of high intensity is conducive to centrifugal orientation of the ego; pain may be one of the factors operative in the formation of such an atmosphere, in which case it has an added value as far as the mnemoneurosis is concerned.

Pain as a Symptom of the Functional Nervous Disorders.—Pain is never a symptom of hysteria, though it may occur in hysterical people; there is no such thing as 'hysterical pain'.

Hysteria is a disorder of behaviour, and all its manifestations are effective and never perceptive. Behaviour in an atmosphere of pain may be hysterical in the sense that it is hyperthymic; the same applies to any afferent impulse; but such behaviour does not constitute hysteria in the true sense; either the pain is dependent on an organic lesion, in which case hysteria cannot be diagnosed, or it is of the mnemoneurotic type, in which case the pain, though functional, is not hysterical. The behaviour of such people is often enough elaborate and histrionic, but there is never any limitation of the field of consciousness in its atmosphere. It cannot be too strongly emphasized that pain, as pain, is *never* a symptom of hysteria properly so-called*.

* Primary hysteria may be accompanied by behaviour associated at its determination with pain, as described on p. 86, and the detail of the association is responsible for a correspondingly accurate impression of pain when such behaviour is seen by the observer. The limitation of consciousness prevailing at the time, however, effectively militates against the true perception of pain on the part of the patient. Complaints of pain with hysterical symptoms are characteristic of tertiary hysteria in the conscious phase.

The dysthymias are not characteristically associated with pain as a symptom; there may, however, be headaches, and in the centrifugal dysthymia the constant tremor of the muscles may be associated with discomfort. But it may be taken that dominant pain occurring in a dysthymic patient is an indication of the onset of the mnemoneurotic phase of the disorder.

Functional pain, in the great majority of cases, is associated with the mnemoneurosis; in fact, it may be said that pain of any sort that cannot be associated with an organic lesion, however slight, is always of this nature. We have already seen that such pain is best explained on the hypothesis of vasomotor asthenia, localized to those areas of the body which have been obtrusively in consciousness throughout the patient's previous history.

THE RELATION OF THE FUNCTIONAL NERVOUS DISORDERS TO EACH OTHER.

It may now be of interest to discuss the possibility of the co-existence of different functional nervous disorders in the same patient, and to consider the modification of symptoms of the different conditions if and when they do co-exist.

In that hysteria is associated with an environment of determination conducive to defective emotional control as a whole and centripetal orientation of the ego, it is obviously incompatible with such disorders as are accompanied with centrifugal orientation and the emotional control with which it is associated. In other words, we never find the occurrence of hysteria with the mnemoneurosis; the two conditions are mutually incompatible. But it has already been pointed out that the behaviour of a patient who suffers from hysteria, at times when his condition is not manifested by obtrusive clinical symptoms, is hyperthymic; his emotional reactions to events occurring in his immediate environment are excessive; his conduct in such cases is liable to be elaborate and gives the appearance of being directed towards the attraction of attention. Also it has been said that in the later phases of the mnemoneurosis the impairment of the emotional control may be sufficient to render the patient hyperthymic; the same elaboration of conduct being manifested. In this way we have the possibility of the occurrence of behaviour which is often seen in hysterical people (but which is not in itself hysterical) occurring in patients who suffer from the pain, worry-dreams, depression, and lack of confidence characteristic of the mnemoneurosis: such cases are liable to give the impression that we are dealing with a combination of hysteria with the mnemoneurosis. In reality such a combination never occurs; all that can be said is that hyperthymic

behaviour is constant in hysteria, as regards possibility of occurrence, and is a possible associate of the mnemoneurosis. In the former case we are dealing with an emotional-control defect that is associated with a defective environment of determination, in the latter with a more recent acquisition in that of adjustment. In the former there never has been emotional control, in the latter there has. Theoretically we might speculate as to the possibility of the deterioration of the emotional control in the mnemoneurosis ever passing into a defect sufficiently gross to be associated with the non-diffusion of centrifugal emotional tones characteristic of true hysteria: such a condition, of course, even theoretically could not occur, for in the mnemoneurotic there has been activation of associational dispositions in the atmosphere of a centrifugal emotional tone in the environment of adjustment: such activation being a *fait accompli*, non-activation cannot ever occur as far as the mnemoneurotic is concerned. It may be said to occur in the sphere of arteriosclerosis arising out of the advanced stage of the mnemoneurosis: but then we are not dealing with a functional nervous disorder at all, but an organic involutionary condition of the nature of senile dementia.

Hysteria cannot co-exist with the dysthymic conditions, for the emotion aroused in the faulty environment of adjustment, which is responsible for the operative distortion in the emotion-connection association found in the dysthymias, brings about hysterical symptoms long before dysthymic. The essence of the dysthymias being emotional control, they are entirely incompatible with hysteria, which develops out of the atmosphere of lack of such control.

Hysteria may then be said to protect the individual from either of the sympathetic neuroses: it is a regressive condition, and is incompatible with the progressive.

The dysthymias, however, can, and frequently do, co-exist with the mnemoneurosis. As has been seen, the natural termination of the centripetal dysthymias in particular is the mnemoneurosis, and there is an intermediate stage in which symptoms of the two conditions exist side by side. Also, as emotional control begins to decline, dysthymic symptoms may be re-induced in the mnemoneurosis.

In addition, in the hyperthymic stage of the mnemoneurosis we may have dysthymic symptoms for a time, and then the total symptomatology of the disorder is very complicated. We have mnemoneurotic symptoms, pain, depression, and lack of confidence, with dysthymic dreams and possible somatic symptoms, all in an atmosphere of hyperthymia-elaboration and histrionic behaviour. Such conditions, however, are never hysterical, though they may at times give the impression of so being.

The common meeting-ground of these disorders, then, is the hyperthymic state that has already been described. Its recognition is important, and a clear conception of it is essential for the proper understanding of much that is, at present, confusing in the symptomatology and inter-relationship of the different functional nerve disorders.

Hyperthymic behaviour is behaviour which is essentially associated with a lack of emotional control: the intensity of the condition is necessarily variable in different people, and in the same person at different times. When present in maximum intensity it is associated with an emotional-control defect that, in the environment of determination, is accompanied by the psychical non-registration characteristic of hysteria; but hyperthymic behaviour is not hysterical, neither are hyperthymia and hysteria synonymous. An hysterical patient is necessarily hyperthymic, but a hyperthymic patient need not be hysterical. Whereas hyperthymia may include, it does not comprise, hysteria; it is merely a condition of general emotional uncontrol, such uncontrol being superadded upon behaviour which is, in its essence, normal. In its intenser forms it is associated with hysterical behaviour—with behaviour, that is, which is accompanied with limitation of the field of consciousness—but it is possible to have an individual intensely hyperthymic, who, owing to circumstances, has never encountered primary specific incidents in the environment of determination; has never activated secondary somatic associations in the sphere of centrifugal emotional tones; has never suffered from the unimportant pains which are liable to precede secondary hysteria in the centripetally orientated individual. Such circumstances, theoretically possible, are probably never encountered in actual practice; in hyperthymia of any considerable intensity, as formed in the environment of determination, we have the occurrence of hysterical behaviour. At the time of manifestation of obtrusive hysteria, the behaviour of a hyperthymic individual ceases to be hyperthymic; it is hysterical; in the intervals it is necessarily hyperthymic.

On the other hand, hyperthymia in less intensity is compatible with a certain degree of emotional control; the intensity of the two varying inversely. So that hyperthymic people are capable of developing the dysthymias; as already pointed out, dysthymic disorders in hyperthymic people present certain specific features; briefly they may be said to resemble hysterical behaviour in the sense of the behaviour of hysterical people when they are not manifesting their symptoms.

A hyperthymic person is liable to form a mnemon neurosis, and, given that a centrifugally orientated individual develop the

mnemoneurosis, then, with the gradual diminution of emotional control, a hyperthymic state may be secondarily induced. Similarly, illnesses of all kinds and the involutionary changes of age are operative in the same way.

Hyperthymia, then, may be primary or secondary according as to whether it is formed out of the environment of determination or that of adjustment, and in the former case we have the probability of its being associated with the elements conducive to clinical hysteria in later life. It is just this probability, and the fact that hysterical people are hyperthymic when not showing symptoms, that has led to the prevalent idea that the symptoms of secondary hyperthymia are hysterical; it is an unfortunate association of ideas, rendered all the more powerful through the undoubtedly frequent association of hysteria with primary hyperthymia. The histrionic behaviour of a hyperthymic person to 'functional' (mnemoneurotic) pain has given rise to the faulty conception of hysterical pain: a condition which never exists as an hysterical symptom, and which should be called rather 'hyperthymic' pain, whether organically determined or mnemoneurotic; in the absence of an organic determinant, all functional pain is mnemoneurotic. In time, as the emotional control subsides, such pain becomes hyperthymic and is in danger of being considered hysterical.

Summary.—To summarize the inter-relations of the different functional nervous disorders, we may say that the retrogressive and the progressive disorders are mutually incompatible; but the two elements of the progressive group may co-exist. All hysterical people are hyperthymic; sufferers from the progressive disorders are liable to become so. In so far as we have a progressive functional disorder in the hyperthymic stage we have behaviour which is liable to be manifested by hysterical people, but only by such people in the intervals of their hysterical behaviour from the clinical standpoint. Such hyperthymic behaviour is not in itself hysterical, and when secondary to a progressive disorder it is never associated with hysteria, properly so-called; it can never act as a determinant of hysteria.

PART V.—DIAGNOSIS AND PROGNOSIS.

CHAPTER XIV.

DIAGNOSIS.

DIAGNOSIS as applied to the functional nervous disorders is to be considered from two standpoints: the establishment of a condition as functional; and the recognition of the particular group to which it belongs. In both prognosis and treatment the different functional nervous disorders vary, and the mere establishment of a condition as functional is insufficient. In so far as accuracy and efficiency of treatment are dependent upon correctness of diagnosis, the recognition of the particular group to which a functional nervous disorder belongs is essential.

For the establishment of a disorder as functional, organic disease must be excluded; and the diagnosis in this respect depends upon the thoroughness of the examination of the patient and the accuracy of the conclusions drawn. It should be made an unvarying rule not to diagnose a functional nervous disorder as such in any patient with organic disease, however empirically 'functional' the symptoms appear to be, but rather to call such symptoms hysterical, dysthymic, or mnemoneurotic in type, and as superadditions upon the organic disease present. In reality they should be looked upon as part of the symptomatology of the disease in question. The early stages of mitral stenosis, for example, are frequently associated with symptoms which are hysterical in type; the same may be said of early phthisis; in the event of *any* evidence of valvular defect being found, or of *any* impairment of the pulmonary efficiency, hysteria *ipso facto* is not to be diagnosed, but only mitral stenosis or pulmonary tuberculosis with the superaddition of symptoms resembling those of hysteria. In both these cases the conformity to true hysteria may be exceedingly close, and a wrong diagnosis is inevitable in the absence of a thorough clinical examination of the patient.

In so far as the establishment of a functional nervous disorder, as such, is dependent on the exclusion of organic disease, it will not be

considered here further, but, as was mentioned in the initial discussion of the definition of these conditions, there are a certain number of disorders which are not functional in the ordinary acceptance of the word and which may exist for a time in the absence of any apparent objective organic disease: these may be reviewed briefly from the standpoint of the functional nervous disorders, properly so-called. The conditions in question are certain types of alienism, epilepsy, arteriosclerosis, disseminated or insular sclerosis, and general paralysis of the insane.

Alienism.—In both the retrogressive and the progressive groups of the functional nervous disorders, the possibility of alienism has to be considered and excluded. And in that many cases of insanity are unaccompanied by any apparent organic abnormality, the exclusion does not rest upon the physical examination of the patient: it can only rest upon the history of the case and the actual behaviour manifested.

As far as hysteria is concerned, the condition most likely to give rise to trouble in diagnosis is dementia præcox; often enough, from a purely symptomatic standpoint, the resemblance between the two may be considerable. But in such cases it is primary hysteria in the phase of expectation, passing towards that of consciousness, that is concerned, and in such cases it is not difficult to trace the all-important rôle of the environment in the precipitation of the symptoms and the centripetal orientation of the ego that is so essential a factor in their perpetuation. Hysteria, like all functional nervous disorders, is determined and adjusted by environment: alienism is not so affected, and the environment that is associated with the perpetuation of the hysterical condition is, broadly, one in which the patient is a central feature of interest. This is in extreme contrast to what obtains in dementia præcox, which is characterized by increasing apathy and listlessness as far as the surroundings are concerned, and which is not developed in response to any apparent source of distress in the environment existent at the time. The states of excitement and depression that occur in the course of dementia præcox are readily distinguished from the facile emotionalism of the hysterical patient. In hysterical people correct treatment is associated with the prompt disappearance of the symptoms in being at the time, and as the patient grows older and is properly dealt with, the centripetal orientation of the ego is lessened in intensity and the condition passes away. In dementia præcox the reverse holds, the disease progressing with time to complete dementia.

Hysteria is essentially a logical process, and given a thorough understanding of the patient and the influences that have been

brought to bear upon him, his symptoms can be seen to follow out a normal and proper sequence. Even in the dreamy states of the primary and secondary varieties this sequence of psychical processes can be traced; in any one chain of symptoms the component units bear an intelligible relationship to each other. In dementia præcox no such intelligibility is to be seen; the various manifestations give the impression of an entirely disconnected patchwork; they can be traced down to no one central mechanism.

Kraepelin has observed that constant auditory hallucinations, even by day, are significant of dementia præcox, and opposed to hysteria; also that in the former condition the psychical reaction of the pupils may be absent.

At the same time it must be remembered that dementia præcox, in that it is a dementia, is liable to be associated with hysterical symptoms, and under certain circumstances the diagnosis may be very difficult between the two. The two great guiding principles in a diagnosis are: the absolute defect in the emotional intensity in dementia præcox as compared with the emotional instability in hysteria; and the fact that hysteria is essentially influenced by the surroundings, whereas dementia præcox is not.

The confusion that is manifested in severe states of the centrifugal dysthymia may be difficult to distinguish from true confusional insanity, and indeed such conditions may be taken as temporary states of insanity. The diagnosis must rest with the origin of the symptoms and the presence of characteristic somatic manifestations, but it is probable that in these states the difference is one rather of degree than of kind.

States of depression resembling those of alienistic significance may be simulated by the mnemonerosis and to a less degree by the centripetal dysthymia and anger-neurosis. Depression is characteristically present in these forms of functional nervous disorder, and in certain cases it may be sufficiently severe to give rise to the suspicion of alienism.

The essential point to be realized in these cases is that the depression is reasonable and is an intelligible outcome of the circumstances of the individual case. The patient is never disorientated; he is always conscious of his surroundings and of their value. Further, the depression tends rather to be developed in respect to what the patient fears may happen than to what has happened; the element of dread, in other words, preponderates over that of remorse. In the event, of course, of there being any incident that may logically be taken as constituting a factor of the case in being, then natural regret occurs and may be intensified in the atmosphere of diminished emotional control that obtains in these cases; but in

such cases the reasonableness of the regret is manifest. In reality, the functional patient with depression is depressed on account of his illness, while the alienistic patient is ill through his depression.

Another factor which differentiates cases of functional from alienistic depression is their reaction to external influences: in the former the patient is open to conviction provided the conviction be made sufficiently forcible and is adapted to the intelligence of the particular patient; in the latter he is not.

In the obsessive form of the mnemoneurosis the difficulty of diagnosis between the two conditions may be very real, for here we have behaviour which is incomprehensible to the patient and incapable of explanation by him; which is liable to impress the observer as delusional. But after examination it is generally possible to establish the consistent whole running through the functional symptomatology, and to trace the behaviour down to perfectly intelligible causes. In addition, the patient is acutely conscious of his abnormality, and he realizes better than anyone else the apparent folly of his mental attitude; and this is in sharp contrast to delusions of the alienistic group. However freely the alienistic subject may admit the absence of justification for his particular behaviour, at the bottom there is a definite conviction that he is right, and he is not so much disturbed by the behaviour itself as by the attitude of his surroundings towards that behaviour. And this conviction of his own rightness is ineradicable by outside influences, thereby again differing from the functional obsessive ideas.

In spite of these differences between the functional disorders and those of alienistic significance, it is possible that certain of these latter are in reality extensions of the former; evolved out of an atmosphere in which the factors associated with the development of the functional nervous disorders are present in an extreme degree of intensity. It is reasonable to think that the element of congenital determination is an essential associate of the atmosphere characterized by this extreme of intensity.

Epilepsy.—Functional attacks, or ‘fits’, are encountered in hysteria and the anger-dysthymia; for the most part their differentiation from epilepsy is easy.

The fulminating onset of the epileptic attack, the profundity of the associated unconsciousness, and the tendency to subsequent headache and drowsiness are sufficiently typical; the presence of scars and bruises about the body, and especially on the face, serves as an index, when present, of the lightning-like incidence of unconsciousness. Any tendency towards mental deterioration is, of course,

in favour of the epileptic nature of the attacks, but it must be remembered that mental defect in itself may be accompanied by hysterical symptoms, although in such cases hysteria is not to be diagnosed. In true hysteria there is no apparent mental defect, and although in certain cases of epilepsy the mental condition may apparently be normal, an examination into the associational formation will almost always reveal a certain degree of deficiency. The responses are of the primary order; in many early cases they are of the clang type, in which case the defect is more pronounced.

Unfortunately, true epilepsy may occur in the absence of any such definite history as outlined above; in some cases, indeed, the history of the attacks as given by the patient may appear to point conclusively to a purely functional basis and yet be compatible with epilepsy. It is, I think, doubtful whether true epilepsy can ever be excluded from the history alone.

From what has already been mentioned, there is reason to believe that the factors associated with epilepsy are the same in kind as those which are operative in forming hysteria, the difference in reality being one of degree only. If this be so, we should expect to find intermediate states in which the patient shows characteristic hysterical behaviour at times, and epileptic manifestations at others. This is borne out by experience, but these cases should not be considered cases of hysteria; they should be included in the general scheme of epileptic behaviour. In this connexion the phenomena of *petit mal* are of interest, for in them we have behaviour which is epileptic, but which is not so biologically elementary as that associated with the major condition; often enough, of course, the two conditions co-exist.

The behaviour of *petit mal* only differs from that of hysteria in that the diminution of consciousness is more profound, there is a marked tendency towards coincident major epilepsy, and there is a characteristic associated atmosphere of mental deterioration; these differences being only differences of degree. It would appear probable that many of the slighter forms of *petit mal* are rather towards the hysterical end of the scale than the epileptic, but owing to the general association of even minor epilepsy with mental deterioration it is not to be looked upon as hysteria.

So that we may say that in addition to the impossibility of excluding epilepsy from the history of the attack, even the occurrence of a 'functional' fit cannot be taken to exclude epilepsy.

The keynote of the differential diagnosis would appear to be the mental state; any tendency towards deficiency precluding hysteria. For the purposes of establishing such deficiency it is necessary in many cases to make a careful inquisition into the associational

formation of the particular patient: if the case be one of true epilepsy the associations are of the primitive type, and may be clang or mere reiterations of the test word.

The behaviour in the anger-neurosis crises is readily differentiated from epilepsy in that there is no loss of consciousness; the characteristic anger-dreams are specific of the dysthymic disorder.

Arteriosclerosis.—Behaviour associated with arteriosclerosis can only be confused with hysteria in the absence of definite signs of arterial degeneration: such signs, when present, excluding a purely functional disorder. In the event, of course, of there being a persistently high blood-pressure, hysteria certainly is not to be diagnosed: the same may be said when the second sound over the aortic area of the heart is accentuated, when there is the frequent passage of pale, low-specific-gravity urine, or silver-wiring of the retinal vessels. But in the early phases of arteriosclerosis the symptomatology may suggest hysteria, and the above signs of the true disorder may be absent. Their absence, however, does not last for any length of time, and in consideration of the common occurrence of functional symptoms of hysterical form in ingravescent arterial degeneration, it is well to make a definite rule *never* to diagnose hysteria in the later stages of life. Whenever the possibility of arteriosclerosis enters the diagnostic field, hysteria should leave it; and it may be said that hysteria, as such, should only be diagnosed in young people. In the event, however, of there being a thoroughly well-established history of previous hysteria in early life, then, in the absence, or persistent absence, of organic vascular change, hysteria may be considered in people up to the end of the fifth decade; it is doubtful, however, whether under any circumstances the diagnosis is justifiable after this.

In the established phases of arteriosclerosis, the behaviour may very closely conform to hysteria: the facile emotionalism of senility imitates fairly closely the emotional instability of the hysterical individual. Needless to say, however, the functional condition is simply an associate of the organic, and the condition is in reality a senile dementia.

The chief point of interest, as far as arteriosclerosis is concerned, is the association with functional symptoms of the mnemonerotic group.

It must be borne in mind that the mnemoneriosis is characteristically associated with a raised blood-pressure, and, in the course of time, arterial degeneration becomes manifest. When it becomes manifest we are no longer dealing with a functional nervous disorder in the true sense of the expression. The mnemoneriosis is the

prodromal phase of the degenerative condition, and the organic changes are the completion of the functional disorder.

At the same time, of course, arteriosclerosis from causes other than the mnemoneurosis is associated with depression and pain in different regions of the body; these cases must be separated sharply from the mnemoneurotic, and the diagnosis lies in the discovery of such causes as syphilis, gout, alcohol, and so forth, in the history of the case, or in the establishment of the mnemoneurotic symptoms before the occurrence of the high blood-pressure.

The influence of dread in the determination of arterial involutionary change is one of the greatest interest, and the factors which are at work in the environment are capable of widespread effects. The dread of certain diseases, working through the associated localized vascular asthenia in the parts towards which attention is concentrated, may, in the accompanying atmosphere of raised blood-pressure, be an intimate element in predisposing to the incidence of such diseases; the knowledge that his father and other relatives suffered from precocious arteriosclerosis may, in the association with dread of a similar event occurring to himself, be an instrument in the bringing about in a patient of the same condition. Many of the problems of heredity would appear to be explicable on this ground, the other essential factor being the centrifugal determination of the ego. But people who have in early life been confronted by family histories of this kind are the people whose egos are likely to be so determined.

The point might even be raised as to how far the fear or dread of growing old, which is powerful in some people, is an actual factor in the determination of the processes of involution; in all probability it is a very important associated element in the rise of senility.

Disseminated Sclerosis.—The functional symptoms which so frequently precede disseminated sclerosis are hysterical in type, usually of the primary and secondary variety. The main condition, of course, is associated with young patients, and from the symptomatology alone it is not possible to differentiate the hysterical symptoms which ultimately are replaced by disseminated sclerosis from those which are not. This is, I think, recognized by modern clinicians, who are accustomed to bear the idea of disseminated sclerosis in mind as a possible, if relatively rare, development in any case diagnosed as hysterical. At the same time it is sometimes possible, from a knowledge of the environment of determination, to suspect the nature of the case in certain instances; given that it has been apparently normal, then the sudden appearance of hysterical symptoms in an apparently emotionally-controlled patient should be looked upon with suspicion; with sufficient suspicion, at any rate.

to justify a careful inquisition into the associational dispositions. If such an inquiry reveals an absence of dissociations and a proper response to the different concentration tests, then the diagnosis of hysteria should be looked upon with doubt. But at the same time evidence in the other direction cannot be taken to rule out the possibility of the subsequent development of the organic condition. Every case of apparent hysteria should be thoroughly examined with the idea of disseminated sclerosis in mind, and the slightest sign of organic disease of the nervous system must contra-indicate the diagnosis of hysteria. Fine nystagmus: slight pallor of the discs: a tendency to bladder difficulty: weakness of the flexors of the thighs on the abdomen: and, in particular, persistent increase of the tendon reflexes: all these are pointers in the direction of the organic condition as against hysteria. Hysteria characteristically shows tendon reflexes which certainly are not irritable: they conform to the general placidity of the patient. Again, persistent difficulty in obtaining the superficial reflexes in a young patient should bring the idea of disseminated sclerosis prominently to the mind.

Unless the environment of determination is known to be such as is associated with centripetal orientation of the ego, every case of hysteria ought to be looked upon as possible prodromal disseminated sclerosis.

General Paralysis of the Insane.—This has a somewhat similar relationship to the functional nervous disorders as have disseminated sclerosis and arteriosclerosis: on the one hand, symptoms apparently denoting such functional conditions developing in the course of time into general paresis: and on the other, through the tendency of certain functional nervous disorders to be associated with arteriosclerosis, a condition also associated with general paresis through syphilitic infection.

The apparently functional symptoms which form the prodromal phase of general paresis are of the dysthymic and mnemoneurotic types: tremors, mental confusion, introspection, depression, and 'functional' pain and paræsthesias. At the same time there is a curious tendency for the symptoms in question to suggest one of the progressive functional disorders, and yet to be lacking in certain essentials of the disorder suggested. Thus, generalized tremors of the centrifugal dysthymic type may be present with conspicuous failure of the concentration-power, and in the absence of the terror-dreams: in such cases these somatic symptoms may occur with dreams of the centripetal order, and vice versa. There may be a fairly close approximation, both from the psychical and somatic aspects of symptoms, to one of the dysthymias or to the memory-neurosis, and yet the most careful inquisition may fail to reveal any

source of distortion in the emotion-conation atmosphere characteristic of the one, or any worry, fear, or dread associated with the other. In other words, the symptomatology may indicate one of the functional nervous disorders, and yet not be altogether true to type; the existence of such inconsistency in a patient of between forty and fifty should immediately bring the possibility of general paresis to mind. Once this possibility has been entertained, an examination of the cerebrospinal fluid, cytological and serological, will set the matter at rest.

In the event of the Wassermann being negative in a case of this kind, the probability that we are dealing with a case of cerebral atheroma with possible hyperthymia is very great.

As a general rule, however, the existence of well-marked functional symptoms in a case of early general paresis usually goes with some sign of the major disease; in particular we may find the sluggish light reaction of the pupils; they may be eccentric and their outline irregular. Any tendency towards inequality of the reflexes on the two sides of the body is of great significance; fine tremor about the lips on speaking is to be looked for.

General-parietic patients who show signs of the mnemonerotic group of symptoms quite frequently give no history of the characteristic dreams. On the other hand, certain cases have trouble from the obtrusive nature of their dreams with very few of the somatic symptoms. Generally speaking, the occurrence of dysthymic or mnemonerotic symptoms during the fifth decade in a patient who has not been subjected to any great stresses as regards fear, desire, or dread should suggest general paresis; and the nonconformity to type of the symptoms in question should reinforce this suggestion.

FUNCTIONAL NERVOUS SYMPTOMS IN SURGICAL PRACTICE.

A frequent source of misconception in the diagnosis of functional nervous disorders is afforded in the common superaddition of symptoms, generally of the mnemonerotic type, upon some organic abnormality. Perhaps the commonest variety of these cases is that seen in surgical practice, and a few words may be said on the subject of functional symptoms in general from the standpoint of the surgeon.

For the most part such symptoms are either hysterical or mnemonerotic, and, as just said, the latter are the more common. They tend to occur in people who have been subjected to a complexity of operations; the essential feature would appear to be the number of such operations, rather than their extent. Septic conditions about the limbs, necessitating frequent incisions; laparotomies, followed by operations for weak scars, repeated two or three times; similar

multiple surgical procedures for such conditions as nephroptosis, uterine displacements, and so forth; all are liable to be associated with marked mnemonerotie symptoms in the atmosphere of dread induced, given that the particular patient is centrifugally orientated. The chief symptoms are pain and tenderness in the region of the operation areas, and with the incidence of hyperthymia the pain is characteristically dramatized; it becomes 'burning', 'scalding', 'grinding', 'bursting', and so forth. In accordance with the centrifugal orientation, there are worry-dreams passing into terror-dreams as the hyperthymic state develops and the atmosphere of dread persists.

The areas of pain become excruciatingly tender; the patient's life becomes a misery, and depression with rising blood-pressure is liable to supervene. The condition only falls short of the true mnemoneriosis in the existence of organic abnormalities represented by the results of surgical procedure. In the hyperthymic stage the condition closely resembles 'causalgia' as far as the relations of the subjective symptoms to the organic determinant are concerned, and in the similarity of the symptoms themselves.

In these cases of post-operative mnemonerotie symptoms the pain is for the most part vascular, being associated with the concentration of attention in an atmosphere of dread on a certain region of the body on the part of a centrifugally orientated patient.

In a certain number of cases surgical treatment is complicated by hysterical symptoms; one group of hysteria is specifically associated with surgical procedure. The group in question comprises the tertiary hysterical muscle-spasms; they affect orthopaedic practice for the most part, and have already been described.

There is, however, another variety of the same group, and that is post-operative hysterical vomiting. In the majority of cases we are dealing with tertiary hysteria, the vomiting being associated with expectation, and often enough reinforced by post-anæsthetic sickness, but in a few the possibility of their being secondary hysterical manifestations cannot be overlooked. Such cases are developed more directly in the sphere of centripetal orientation of the ego, and curiously enough the very perfection of the operation, the quickness with which the wound heals, and the simplicity of convalescence may be essential factors in their formation. The patient does not find himself a centre of attention, and he is perhaps expected to take a dietary which makes him think his case is not receiving the carefulness it should; vomiting develops in accordance with the intensity of his centripetal orientation, and he is thereby justified to himself. Such patients are young; they are detached and composed; they vomit with the regularity of clockwork after all forms of food, and

they do not waste to any extent. Certain of the cases of pernicious vomiting of pregnancy would appear to be hysterical, and, as pointed out by Dr. Hurst, are of the expectant or tertiary variety.

The relation of surgical treatment to the dysthymias is of interest: generally speaking it may be said that pure fear in the atmosphere of disease is rare, the emotional tone, as a rule, being that of dread.* Yet in certain exceptional cases the knowledge that he has a particular disease, or is in danger of having it, may induce a state of utter panic in a patient entirely distinct from dread: in such cases, however, we are usually dealing with hyperthymic people. One of the purest forms of the centrifugal dysthymia that I ever saw was the case of a woman: she developed a blind state of fear in the atmosphere of pregnancy, and typical terror-neurosis supervened.

Speaking generally, the essential features in the diagnosis of a functional nervous disorder from organic disease and such conditions as alienism and epilepsy are to be found in the reaction to the environment and the absence of any demonstrable organic abnormality.

DIAGNOSIS OF THE FUNCTIONAL NERVOUS DISEASES FROM EACH OTHER.

The differentiation of the various functional nervous disorders among themselves is in the majority of cases easy. Any condition characterized by the persistent implication of the sympathetic nervous system is not hysterical,† but belongs to the progressive group. Cases which are associated with pain as the cardinal symptom are mnemonurotic, and such cases are also accompanied by hyperpiesis. The fine tremors, mental confusion, and terror-dreams are entirely characteristic of the centrifugal dysthymia: just as introspectiveness, depression, and dreams of unsatisfied desire are diagnostic of the centripetal. It should be remembered that dysthymic dreams waken the sleeper in themselves, and a history to this effect is essential for the diagnosis of these conditions.

In their uncomplicated phases, the different functional nervous disorders are readily recognized; a certain amount of difficulty enters

* The clinical differentiation of fear from dread would appear to depend on the factor of intensity, and on the fact that, whereas dread in the atmosphere of disease is associated with a concentration of emotional tone upon certain localized regions of the body, fear is not, but is a general condition accompanied by a confusion which militates against any such localization.

† The so-called hysterical polyuria is, of course, merely an aspect of the behaviour at the time, and not a reaction of a specific emotional tone.

when the presence of one is complicated by elements of the others, or when the patient assumes a condition more or less common to all. Dysthymias passing into the mnemononeurosis, the mnemononeurosis in the hyperthymic stage, the incidence of a dysthymic condition in the mnemononeurosis, and especially, the hyperthymic state in itself, are possible sources of difficulty.

The occurrence and dominance of pain in a dysthymic patient indicates that the primary condition has passed into the mnemononeurotic, and this occurrence generally goes with a subsidence in the intensity of the characteristic dreaming. The dreams are still present, but they do not waken the patient as a rule, and there is a tendency as the case progresses for them to assume the dreary unrefreshing atmosphere of the mnemononeurotic worry-dream. The development of the mnemononeurosis is rapid in the centripetal dysthymias and in the anger-neurosis; it is to all intents and purposes inevitable in these states, whereas in the centrifugal it is by no means the rule. At the same time the frequent incidence of precordial pain in the centrifugal dysthymia has this significance.

The mnemononeurosis in the hyperthymic stage may present a very confusing picture: it is, in fact, the common form of the established 'neurasthenia' met with in general practice. Whenever the condition of hyperthymia is assumed, we have behaviour that appeals to the majority of observers as hysterical; it is not hysterical, but it is very common in such people, and confusion is thereby liable to arise. It is a condition essentially characterized by impairment of emotional control, 'natural' in the case of hysteria in that it is associated with a specific environment of determination, and 'acquired' in the case of the progressive disorders in the environment of adjustment. Any prolonged and debilitating illness may be associated with hyperthymia during convalescence.

The chief objective characteristic of the hyperthymic state is the exaggerated emotional reaction of the individual to his sensations and the necessity he experiences of impressing his environment with their intensity. Given that there is no organic determinant of such sensations—scars, injuries, and disease in general,—we have what has been wrongly called 'hysterical pain', which is, in reality, mnemononeurotic; and we have the amazing dramatization of symptoms so characteristic of the later stages of 'neurasthenia'. The patients in the course of time realize that their pain is not associated clinically with any gross lesion: they replace such an absence with the intensity of their distress, and they spend their time in elaborating their sensations in a general atmosphere of emotional instability. In these cases the key to the diagnosis rests in the history, for prior to the incidence of hyperthymia there is the mnemononeurosis or a dysthymia,

or both. In the entire absence of such a history the case will be found to be one of hyperthymia associated with hysteria, and any pain in such a patient will be found to have an organic determinant. Given, of course, that the necessary conditions as regards environment are fulfilled, pain in these people is associated with an hysterical manifestation such as secondary hysteria, with anaesthesia and associated paralyses.

The mnemonenrosis in the hyperthymic stage is liable to be complicated with intercurrent dysthymic manifestations, in the manner already described, and the typical dreams may recur. Here, again, the history of the case is essential for diagnosis, but confirmatory evidence is to be found in the blood-pressure and localized vascular asthenia.

It is obvious, of course, that hysteria, properly so-called, cannot co-exist with the progressive neuroses, but, as indicated, a superficial resemblance to such a co-existence is to be found in the hyperthymic state. There can be no doubt but that this state is the complicating factor in the diagnosis of the functional nervous disorders; common to all of them, it is specifically associated with one. This association is, unfortunately, quite natural, for whereas the progressive disorders may induce hyperthymia, equally they may not; ideally treated they certainly would not. But hysteria is *inevitably* associated with it; it is impossible to imagine a human being entirely and always hysterical (from the clinical standpoint), and human hysterical behaviour in the intervals of hysterical manifestations is hyperthymic.

Hyperthymia in young people is, as a rule, indicative of the hysterical individuality; in people approaching middle age it is generally an acquired state, and the functional nervous disorders associated with it are of the progressive order.

Worry, depression, pain, mental confusion, vivid emotional dreaming, and a tendency towards hyperpiesis differentiate the progressive neuroses sharply from hysteria, which is characterized by mental calmness and detachment and an entire absence of any disagreeable emotional dreaming. Hysterical behaviour is automatic and organized, whereas that which occurs in the sympathetic neuroses is elemental and confused; of the two, the more impressive the manifestation the more likely is it to be hysterical.

A certain amount of difficulty is sometimes experienced in the differentiation of the centripetal dysthymias from the mnemonenrosis, and in the majority of cases when the patient first seeks medical advice for the former condition elements of the latter are present. Given that there is introspection and vivid emotional dreaming, then we are dealing with the dysthymia; there may in some cases be vague discomfort in different regions of the body, but the

incidence of the mnemonurosis is accompanied by the definite domination of pain in the clinical picture. A rising blood-pressure in a dysthymic condition suggests the onset of the mnemonurosis: pain is rarely long delayed under such circumstances. The degree of depression is no criterion between the two conditions, and it must be remembered that the centripetal dysthymia is very liable to manifest hyperthymic symptoms.

Tendon reflexes are normal in hysteria; increased in hyperthymic states, and in the dysthymias and mnemonuroses.

CHAPTER XV.

PROGNOSIS.

THE prognosis of the functional nervous disorders must be considered from the standpoint of the individual conditions; what obtains in the case of one by no means holds good for the others. It has been customary to look upon functional nervous disorders as essentially curable conditions; as having at any rate no serious significance as far as the patient's life is concerned. This view requires revision, for as far as one of these conditions is concerned it inevitably shortens life unless effective means be taken for its relief. No statement can be more erroneous than that which so frequently follows the diagnosis of a functional nervous disorder and which implies that because the condition is functional it is therefore of no serious prognostic significance. On the other hand, the diagnosis of other such conditions implies an absolutely inevitable cure unless the environment adopted interferes; this unfortunately has been often the case in times past.

Hysteria.—Hysteria naturally tends to disappear as the patient grows older and lives longer in the environment of adjustment; it inevitably disappears unless the treatment has the effect of fostering the centripetal orientation of the ego.

It has been seen, in the discussion of hysteria, that there is a tendency towards increasing consciousness in the successive manifestations; all cases of this condition in the course of time subside as far as true hysteria is concerned, although they may be perpetuated consciously. It would appear as though faulty treatment were effective in the allowing of the true hysterical state to merge into the conscious. Once the conscious state has been attained, the condition is out of the range of the physician, who must realize that the state in being is not so much a disease as a form of life that appeals to the patient in that it is provocative of a desired environment.

In an ideal environment hysterical symptoms would disappear almost as soon as they were manifested; but in so far as any end is subserved by their occurrence, just so far will they recur, and such recurrence is an outward and visible sign that the particular manifestation has in some way been a source of satisfaction to the patient.

The tendency to hysteria diminishes with the age of the patient, and the recurrence of hysterical symptoms is a direct and unfavourable commentary on the treatment that the patient has received.

It has been pointed out in a previous section that the development of an hysterical manifestation for the first time in full adult life suggests a degree of mental defect that may not be apparent in the usual behaviour of the patient; in such cases the outlook is not so favourable, but in such cases we are not dealing with true hysteria.

The duration of a particular hysterical manifestation has an effect on the prognosis, for as any symptom persists there is an increasing associational sphere activated around the particular symptom in being; the true hysterical element lessens; the condition becomes in a manner purposeful, and proportionately difficult of removal. In such cases the removal is dependent upon an alteration of an environment that has been in existence for a very considerable time; the difficulty of removal of the symptom is really an expression of the impracticability of altering the established environment.

The Mnemoneuroses.—The ordinary form of the mnemoneurosis may be taken as an expression of failure on the part of a particular individual to prevail in the psychical struggle for existence; the prognosis of the condition, left to itself, is bad. With the depression which is characteristic of the condition, is a rising blood-pressure, and in the course of time arterial degeneration and all that it implies. In the arteriosclerotic state of course we are not dealing with a pure functional nervous disorder, but in that the mnemoneurosis is so intimately associated with arteriosclerosis, the outlook of the one is the outlook of the other. Therefore, as regards the ordinary form of the memory-neurosis, we have the converse of what holds for hysteria; left to itself the course is inevitably downwards to a condition which in time terminates life. Under appropriate treatment, however, this tendency may be lessened, but it must always be remembered that in these cases we are dealing with a centrifugally orientated ego; one which is particularly predisposed to the incidence of dread. It is in accordance with the practicability of the removal of dread from the life of the patient that the curability of the mnemoneurosis depends, and in the conditions of modern life this possibility is sometimes remote. The later on in life the symptoms occur, the less the likelihood of their removal, for in such cases we have an increased association of dispositions activated in the centrifugal atmosphere, and a correspondingly increased tendency to the re-induction of the centrifugal atmosphere through the multiplicity of these dispositions and their intimate connexion with the circumstances of everyday life. Depression and associated dread in such cases may be

exceedingly difficult to remove; indeed, removal would be tantamount to removal of the individuality of the patient.

If the case has progressed towards the hyperthymic stage the prognosis is even worse in so far as a useful life is concerned. The patient may be given a life of comparative comfort, but such comfort very often depends upon an entirely artificial environment; it is in reality a recognition of the permanent invalidism of the individual concerned. The mnemoneurosis in the hyperthymic stage is the common form of 'neurasthenia' as met with in practice, and it is probable that the opinion generally expressed in such cases that, the condition being functional, it will inevitably improve, is not justified. Certainly it may be said that in so far as the condition is functional, there is no organic lesion to prevent its becoming cured; but the actual cure of an established case of the mnemoneurosis as met with in middle age, or early middle age, is of rare occurrence as far as restoring the patient to a useful life is concerned.

In the obsessive form of the mnemoneurosis the element of treatment is the deciding factor, and provided the incident upon which the elements of dread have been superimposed be discovered, then the patient resumes his normal health and activities. But here again the factor of the age of the patient at the time of his breakdown is of importance, as is also the duration of the breakdown itself; if the patient's whole life has been moulded upon such elements, then the unearthing of the central incident, while giving relief, does not radically alter the individuality; on the other hand, it certainly increases the utility of the individual.

In the event of the central incident remaining hidden, then the outlook in this form of the mnemoneurosis is also gloomy; but with suitable supervision the patient may be rendered capable of carrying on a useful life. In cases where the obsessive symptoms made their appearance early in adult life, increasing age (increasing length of time in the environment of adjustment) may be associated with an attenuation of the obsessions even when the central incident remains undiscovered, in a suitable atmosphere of encouragement and reassurance.

In both forms of the mnemoneurosis, improvement under treatment is liable to be associated with relapses, and these relapses come again and again even after apparent cure of the original condition. In reality they are not so much relapses as expressions of the centrifugal orientation of the individual; the recurrence of symptoms forms a fresh attack rather than a relapse. In that such relapses are in themselves potentially associated with a centrifugal atmosphere, their very occurrence sensitizes the patient still more to their future incidence; but in such cases treatment, if it has been effectual in the

first attack, may be instituted early in the relapse with correspondingly satisfactory results.

Hysterical symptoms ought never to be allowed to relapse; as already said, the recurrence of an hysterical condition is a direct and an unfavourable criticism upon the treatment the patient has received. But with the mnemoneurosis relapses are inevitable, and it is of the utmost importance to warn the patient of their occurrence; otherwise their incidence is associated with a very great increase in severity of the depression; the final state may be worse than the original attack.

The Dysthymias.—The prognosis of the dysthymic disorders differs materially according as to whether we are dealing with the centrifugal or the centripetal variety, the difference being associated with the different types of environment immediately concerned in their production. It is to be remembered that in these states we have a more or less general emotional uncontrol and a specific emotion-conation association distortion; in the centrifugal variety we are for the most part dealing with an outrageously exceptional environment, whereas in the centripetal the environment which has proved inimical is one which is for the most part very much less exotic and less easily remedied on this very account. Strictly speaking, both varieties have this implication in common: they indicate the unfitness of certain people for particular environments, and this unfitness is permanent in both types. But in that the specific environment in the centrifugal order is absolutely exceptional, patients with the centrifugal dysthymia may be easily taken from its influence and may carry on their activities efficiently in other and common surroundings; they still remain 'sensitized' to environments rich in centrifugal emotional tones, but under ordinary circumstances they need not encounter such environments. In the case of the centripetal disorders, however, this is not the case, for it is practically impossible in a great number of cases to remove the patient from environments which contain none of the centripetal atmospheres. Therefore, although academically the two varieties have the same prognostic significance, practically the centripetal forms are very much the more difficult to remove, in the sense of rendering the patient fit for useful work.

Again, in the outlook of the dysthymias, very great importance is to be attached to the early institution of appropriate treatment, and with the centrifugal forms the disablement is sufficiently great at inception to enable such treatment to be begun at once. But with the centripetal it is otherwise; the patients for quite a considerable time may suffer merely from moodiness and emotional dreams, with impairment of concentration; a condition which does not bring them

under treatment, and as a rule it is only when the dysthymic condition has given place to the mnemoneurotic that the patient seeks advice.

Dysthymias do not remain as dysthymias; either they are relieved (in the sense that the patient is enabled to do useful work and is comfortable in his environment), or they pass into the mnemoneurotic group. The centrifugal dysthymias are less liable to the latter course owing probably to the early institution of treatment and the reassurances conveyed in the course of treatment; also, the fact that such patients are confused militates against the occurrence of dread. As the patient improves and the confusion lessens, the liability to the incidence of dread decreases. At the same time, the persistence of certain symptoms, such as the tachycardia, and the failure of treatment to remove the fear of an organic basis for such symptoms, is associated with a liability to mnemoneurotic features in the realm of the organ implicated; here again, however, such patients may suffer from the characteristic precordial pain, but there is no great tendency for the development of the hyperthymic state, and they are generally speaking capable of efficient work. All these factors, acting against the development of the mnemoneurosis in the centrifugal dysthymias, are absent in the centripetal. In centripetal dysthymic states we have a condition associated from the beginning with moody introspection, and one which does not, from the standpoint of the patient, call for immediate treatment. As the condition progresses, dread is evolved, and the worse the dysthymia, the more brooding is the patient, and the greater the intensity of the dread. Pain develops, and the hyperthymic state is quickly assumed. The environment associated with the formation of the condition is not one which can be readily eliminated as far as the patient's utility is concerned; it can only be done by making the patient a confessed invalid, which again reinforces his dread.

It may be said, then, in dealing with the prognosis of the dysthymias, that the more ordinary the environment in which the condition has developed, the more difficult is it to render the patient capable of useful existence; and, given that such an existence is not of likely development, then the mnemoneurosis ensues, with its usual potentiality for organic disease.

The occurrence of a dysthymic state in a patient who is from the outset hyperthymic, increases the danger of the centripetal dysthymia, and renders the centrifugal more liable to the mnemoneurosis. The principles at work are the same, but with hyperthymic people it does not require any very exceptional environment to be operative. It has been mentioned in the case of the centrifugal dysthymia occurring in hyperthymic people that although the element of emotionalism is

obtrusive, there is less true confusion: such patients, therefore, are more liable to the formation of dread in their early stages than is commonly the case in these dysthymias; the mnemonerotie symptomatology is very much more liable to be manifested.

It might be thought that the hyperthymia would bring the centripetal dysthymic patient under treatment earlier than is generally the case with such neuroses, and this sometimes happens, with correspondingly beneficial effects. But often enough there is no such tendency to seek early advice; the emotional behaviour of the individual being customary and discounted by his or her relatives. This is a point of practical importance; the occurrence of unusual moodiness and depression in people during the third decade should always give rise to the idea of the centripetal dysthymia, although the patient is normally emotionally unstable.

Hyperthymia in itself cannot be considered as a disorder; it only assumes clinical importance from its effect upon other conditions. Like the hysterias, it tends to lessen in intensity as the patient grows older; it recurs during the involutionary phases of life. The more the patient's environment of adjustment brings him into contact with his fellow men and into an atmosphere of responsibility, the more the condition lessens, provided the patient be sufficiently young at the time. In the event of his being thrown upon his own resources in later life, then the incidence of the mnemonerosis, with or without preceding centripetal dysthymic states, is almost inevitable.

PART VI.—TREATMENT.

CHAPTER XVI.

GENERAL CONSIDERATIONS.

IT is not proposed to enter into the details of any method of treatment of the different functional nervous disorders, but rather to discuss briefly the indications for certain methods and the lines upon which they should progress.

During the past few years the treatment of the neuroses has received great and detailed attention, and the whole subject has been invested in an atmosphere of rather bitter controversy. Lines of treatment enthusiastically adopted by some and found to give good results by them, have been condemned with equal fervour by others as useless, and even, in some cases, unjustifiable. Men have obtained, and continue to obtain, results that are satisfactory by following certain methods; whereas others, equally painstaking and following out the same methods, fail completely. On the other hand, with entirely different treatment these latter will obtain good results. Even on what might be considered so simple a problem as drug treatment, we find the same acute divergence of opinion; by many absolutely conscientious observers drugs have been found to give good results: by others equally thorough and careful, administration of the same preparations either has no effect at all or increases the disability.

These differences of opinion would appear to originate in the non-recognition of two great and fundamental factors: the fact that functional nervous disorders comprise conditions which differ absolutely among themselves as regards evolution and prognosis, and the fact that every method of treatment is complicated by the personality and outlook of the physician responsible. A review of the recent literature of these conditions cannot fail to impress the reader with the realization that there is as yet no commonly accepted classification of these conditions: the very discordance of results indicates a difference in type of the disorders treated.

SCHEME OF EXAMINATION AND ITS BEARING ON TREATMENT.

Even recognizing the different varieties of disorder, we are still faced with the fact that, dealing with one particular type, a method of treatment efficient in the case of some patients is inefficient in others, and here the individuality of the patient is the factor of importance. In dealing with disordered function of the nervous system, it is essential to form some idea of the normal individuality of each particular patient, for a line of argument or a method of treatment that may be applicable to one may be entirely misplaced in another, even when both are suffering from the same type of disorder. It cannot be too strongly emphasized that before the institution of any form of treatment in the different forms of functional nervous disorders, a thorough examination into the individuality of the patient must be undertaken. Such an examination is not to be looked upon as forming part of treatment in itself, although it may aid treatment by making the patient realize that his case really is being carefully dealt with: a point of some importance when, or if, subsequent treatment be irksome to him. It is simply very careful and detailed case-taking with an idea to estimating the patient's intelligence, his character, ambitions, and surroundings, both of determination and adjustment. I have myself found the following scheme useful:—

A. Environment of Determination.

Home.—Details as regards parents; their age; health; their previous medical history. Cause of death; type of last illness. Whether strict or otherwise; gloomy or cheerful. Similar details as regards brothers and sisters. Patient's medical history. General atmosphere of the home; whether happy or unhappy; whether the family were or were not brought up together. Prominence or otherwise of religion in the home circle. Financial circumstances.

School.—Age at which sent; type of school; home- or boarding-school; whether the patient was fond of his school or not; bullying; punishments. Proficiency in games; whether keen on games or whether he played them as a matter of routine. Proficiency at work; any special fondness for particular subjects; prizes. Novel reading; the books most enjoyed (often found by asking which books he read more than once). His attitude to such authors as Scott, Dickens, Ballantyne, Marryat. Whether or not he formed many friends; if so, whether he kept up the friendship after leaving school.

Hobbies.—Whether he kept pets; collected any particular articles; went in for mechanical hobbies, photography and so forth. Musical ability; sketching, painting, and writing.

Ambitions.—The very earliest ideals; engine-driver, fireman, soldier, sailor, and so forth. Subsequent inclinations and hopes.

Attitude of the patient to religion, disease, financial welfare.

Sexual Life.—Age at which he became acquainted with essential sex details; manner with which he became so acquainted. Attitude in early life to sex-matters. Auto-eroticism; homosexual tendencies.

B. Environment of Adjustment.

Home Life.—If married: domestic happiness or distress; worries associated with his family. Conjugal relations; use of preventives; general atmosphere of the home. If single: reasons operative against marriage; presence of any element of sex-hunger, sex-horror, sex-worry.

Occupation.—Congenial or otherwise; whether an independent agent or a dependent. Prospects; financial circumstances. Interest in work; whether unimpaired or lessening. Fear and dread in association with his work.

Reactions.—Active or sedentary; intellectual or otherwise. Inclinations as regards holiday resorts; the populous or the solitary. Amount of holiday each year; attitude of mind towards taking holidays.

C. Dreams.—The general liability to the remembrance of dreams; their type in health; any alteration in type at any time. Presence or absence of emotional dreams.

D. Association Tests.—Prevalent type of associations formed, primary or secondary. Memorization-power.

E. Concentration Tests.

The information available from the answers on the above points gives a rough general idea of the type of individual with whom we are dealing, and frequently opens up an avenue which affords important supplementary knowledge for the decision of the applicability of different lines of treatment. It is associated, of course, with the history of the present condition, a thorough clinical examination with estimation of the blood-pressure, and a definite diagnosis as to which of the particular functional nervous disorders is present. It is capable of defining the orientation of the patient, centripetal, centrifugal, or apparently normal; often enough it reveals the existence of an atmosphere, the removal of which alone is sufficient to remove the disorder.

CHAPTER XVII.

HYSTERIA.

THE maintenance of an hysterical disability is dependent for the most part on two chief factors, the centripetal orientation of the patient and the immediate environment. Arising out of these factors is the expectation on the part of the patient of the persistence of his condition.

Of these factors the one which most readily admits of attack is the immediate environment; given that this be modified so as to modify the disability, there is a corresponding modification of the orientation of the patient, and logical treatment should be towards the removal of the symptom through the environment.

It is worse than useless to attempt the removal of the symptom directly through mechanical appliances or drugs, while permitting the environment of invalidism to persist; this reinforces the conviction of invalidism and fosters the centripetal orientation.

The logical method of treatment in hysteria is to make the disability a source of vexation to the patient; directly this is accomplished the disability disappears, and the principles at work in its disappearance are the same as those which brought it into being, but with this difference: the removal is in no way associated with a limitation of the field of consciousness, and the succeeding behaviour is not automatic: the patient is relieved of his condition through the intervention of his own consciousness. In so far as this is the case, the particular symptom will not recur, for the paths associated with the transference of the emotional tone *en bloc* are, so to speak, broken up, and there is the formation of secondary associational dispositions with the proper diffusion of the emotional tone through them.

It cannot be too strongly emphasized that it is the actual disability in being that must be rendered obnoxious to the patient. There must be no punitive treatment, which renders the administrator a source of anger and which induces the thoroughly dangerous atmosphere of self-pity: there must be no elaboration of method, which convinces the patient that he is a source of interest through his symptom. There must be an absolutely detached and indifferent atmosphere which is entirely distasteful to the patient, and he must be made to associate such an atmosphere with his disability alone.

This cardinal principle in the treatment of hysterical disabilities is easily postulated, but its actual execution may be quite exceptionally difficult. The surroundings in which the patient has lived up to the time of his being seen must be looked upon as having been in a large measure responsible for his hysterical condition ; they are therefore ideally wrong from the point of view of treatment. The relatives again constitute elements which are similarly operative, and they should be excluded ; this is rendered difficult, often enough, by their solicitude and by the feeling of resentment which their removal arouses. The very annoyance with which the patient begins his treatment is liable to be directed towards his physician as the responsible agent, and this annoyance must be obliterated at once. With intelligent patients the mere idea of being summarily treated is liable to excite an attitude of defiance, and the persistence of the symptom is looked on as a justification of himself and an indictment of his doctor, who is thereby considered to have proved himself wrong in his method of treatment.

The duration of the disability has a very important bearing in this connexion, for, from what has been said, the longer the duration the greater the liability of consciousness being, in part at any rate, operative in maintaining the symptom. Such patients realize that if they endure such treatment for a sufficiently lengthy period, they will be returned to the invalid surroundings conformable to them. But, as previously said, these cases do not constitute true hysteria, but rather a method of life which is congenial to the patient.

From the very outset the patient must be made to feel that his doctor is sympathetic with him ; he must be even made to realize that he will put himself to serious inconvenience on his behalf. He must equally be convinced that as far as his doctor is concerned there is nothing in his case that has not received careful and skilled attention. Once this atmosphere is induced, that doctor will certainly cure the case, provided he is able to convince the patient that he knows him to be curable. Given that such relations are established, then the destructive element of annoyance with his physician will not arise ; the feeling of defiance is replaced by the characteristic attitude of the hysterical patient, the desire to please.

METHOD OF EXAMINATION AND OF DEALING WITH THE PATIENT.

The initial step in the treatment is the examination, and this must be done once and once only ; it must therefore be exhaustive. No region of the body is to be left without investigation ; there must be no mere examination of the parts complained about, which will lead to endless complaints in the course of time about other regions

which escaped attention at the initial examination. The cardiovascular apparatus, the lungs and abdominal organs ; the skin, hair, nails, glands, joints, and bones ; the retinae, the tympanic membranes, the larynx, and the nose ; the blood and urine ; all must be investigated from the first. The detailed examination into the individuality of the patient as described above is to be incorporated in this clinical examination. Having done this, then on no future occasion can the patient say that he is convinced he has disease of certain parts without his doctor being able to say positively that the part in question need give rise to no anxiety. The patient must be treated with courtesy, and he must never have the idea that any statement he makes is belittled or neglected ; at the same time he must not even in a slight degree be given cause to think that he is a centre of interest ; no symptom he complains of is to be unexpected on the part of his doctor. Such complaints as he may make from time to time are represented as though they were expected, ordinary, and quite customary incidents in the progress of his cure.

A very important element in the atmosphere of treatment is never to allow the patient to 'rest on his laurels'. It frequently happens after the first few days that a degree of improvement takes place ; there is great danger of the attendants congratulating him on his improvement, and introducing an element of flattery and petting. This is most destructive, and is accountable for many examples of either complete relapse, or, at any rate, absence of any further progression towards cure. As a matter of fact, these slight states of improvement may be made extremely useful factors in the reinforcing of the essential atmosphere of treatment ; the physician on his visit is told in the hearing of the patient that an improvement has occurred ; he more or less uninterestedly remarks that an improvement, of course, was bound to happen ; then, when he sees the patient, he gives the impression that such improvement as has occurred has not come up to his expectation. Very often there is no need at all to express this opinion ; it is enough to tell the patient at once to perform the desired action, and to give to him by manner alone the impression of regret and mild disappointment that its imperfection occasions. There should be no idea of annoyance, surprise, or pleasure ; the manner should be one of polite detachment tinged with disappointment. At the same time the improvement, such as it is, is to be recognized.

The final necessary principle is the imparting to the patient every time he is seen the absolute certainty in the mind of his doctor that the cure will come ; at the same time, of course, this is not to be expressed in periods of time in all patients. Quite naturally, in the case of an intelligent and educated man, a categorical statement

without reference to any environmental context that he will be cured in three days is liable by its very irrelevance to range the patient in an opposite camp, and to induce the element of self-justification in the perpetuation of the symptom beyond the stated time. At the same time, if he can be given the idea that the statement is based on scientific grounds and is only enunciated after a thorough consideration of the individual details, then it may be operative. The knowledge gained from the initial inquisition into the individuality of the patient is of great service in this direction, as revealing the lines along which he is most impressible. But provided the patient has the conviction that his doctor is absolutely certain of imminent cure, such categorical statements are best avoided; they are unnecessary, and to educated patients they often give the impression of charlatanism.

To summarize, then, we may say that the end to be secured in the treatment of hysterical states is the rendering of the manifestation obnoxious to the patient in itself in an atmosphere or environment which persists and terminates with the symptom. In arrangement of this environment all elements of punishment and vindictiveness are to be rigidly excluded; there must be no possibility of self-pity or martyrism. The patient must not be allowed to think himself the centre of interest; he must be sufficiently thoroughly examined at the initiation of treatment to convince him (*a*) that his case is thoroughly understood, and (*b*) that his doctor is friendly and, whatever his subsequent manner may be, sympathetic. Treatment should not be attempted in the home surroundings, and, once begun, all formal examinations are to be avoided. The patient, while realizing the sympathy of his doctor, is to be treated with detachment and indifference; always being given the idea that rather more was expected than actually occurred as far as progress is concerned.

Each case is to be dealt with on its own merits, and the environment of treatment that has been efficient in one patient may be hopelessly inefficient in another.

If now, in the light of the above remarks, we consider briefly certain methods of treatment that have been or are employed, we find that from quite early times the above principles have been empirically practised.

DRUGS.

The treatment of hysterical manifestations by drugs is now almost entirely abandoned as far as routine is concerned, but there is no doubt that under certain conditions their employment has been attended with satisfactory results. Given that any drug can be obtained which from its taste or smell earns the wholesale detestation

of the patient, then the routine administration in an atmosphere of expectation of cure is liable to be attended by such cure. In such conditions one great difficulty is obviated; the patient does not attach the disagreeable remedy and her detestation of it to her medical attendant, owing to the widespread reputation that drugs have of unpleasantness; the distress is inevitably associated with the disability for which the drug has been given. In fact, given that such a drug were available, it might quite conceivably be as efficient a means of treatment as could be found. But there are two difficulties in the way of the treatment of hysteria by drugs; it is very hard indeed to find a preparation which fulfils the desired conditions as regards unpleasantness; and in modern times the inherent belief in drugs as a means of treatment has practically disappeared, among intelligent laymen. At the best, no one drug can be assigned absolute value, for different people have entirely different tastes; even in the case of valerian itself, what is now commonly considered as excessively disagreeable was in times past prized as a scent and was used largely as a flavouring agent in domestic cookery.

The rendering of a disability unpleasant to the patient by the sense of taste is more academically perfect than by any pain its administration may produce, for taste is more purely personal and the element of anger against the administering agent is less likely to be developed. At the same time, subcutaneous injections of ether have their value in certain hysterical states; they are disadvantageous in that the very performance of a subcutaneous injection may in certain people increase, or be in conformity with, the centripetal orientation of the ego.

From the standpoint of any specific action in hysteria, drugs are useless; such action as they have is either in the direction indicated above, where their administration is a cause of intense disgust to the patient, or purely by expectation. In the former case relief is more likely to be lasting than in the latter, but is of rare occurrence in modern practice.

At the same time it would appear probable that a careful use of the initial inquisition scheme might reasonably in certain cases reveal personal peculiarities as regards tastes and smell; and the administration of mixtures containing substances which are obnoxious might have a considerable value in reinforcing other methods of treatment. It would certainly be an element conducive to the rendering of a symptom unpleasant to the patient, and, as said above, it is an agent which of all others keeps the atmosphere of distaste away from the administrator. Furthermore, in that consciousness is at no time in abeyance during the administration, the symptom becomes consciously associated with a disagreeable tone, and this, from the nature of the

hysterical individual, militates against recurrence. It would appear as though further attention along these lines might add a very powerful *adjuvant* in the treatment of hysterical conditions.

Undoubtedly a risk to be encountered is the imparting to the patient the idea of empiricism in such administration, but this is lessened by the care and detail of the initial examination, and the knowledge on the part of the patient that the particular preparation given is definitely *ad hoc*, and strictly in conformity with the knowledge gained thereby.

ISOLATION.

It is probable that the scientific employment of isolation affords the ideal means of dealing with hysterical manifestations; it is of the greatest misfortune that such employment is so difficult to put into practice, for isolation improperly applied may be fraught with disastrous consequences as far as the subsequent treatment of the disorder is concerned.

Broadly it consists in the artificial production of an immediate environment directly at variance with the orientation of the patient, and inextricably associated in the patient's mind with the symptoms manifested. So inevitable must this association be, that he must realize that their disappearance—as opposed to their improvement—is with certainty associated with alteration of the offending surroundings. The aim is to bring about a converse mechanism to that associated with the manifestation of the symptom. The symptom in question has arisen out of an environment opposed to the orientation of the patient, and its persistence as a symptom argues, among other things, that the new environment is in conformity with his centripetally orientated ego. If, however, the new environment is made directly subversive to this orientation *on account of the symptom*, then, in accordance with the directness of the association of the two and the nonconformity of the environment to the ego, is the quickness with which the symptom disappears. The disappearance in such a case is carried out in consciousness; there is no limitation of the field of consciousness; and there is therefore no tendency to relapse.

The chief element operative in concrete isolation is the entire absence from the environment of sentimental or dramatic attention, and the realization by the patient that while undergoing treatment he is not an object of concern to anyone; the very simplicity of the method militates against any idea of his being a focus of wonder or distress. Also, in properly applied methods, any intercurrent hysterical manifestation arising out of the annoyance of the immediate surroundings and the centrifugal emotional tone so associated is

entirely inoperative in the modification of the surroundings in question. Finally, the best results are obtained in the absence of any element of expectation. It is certainly true that a strong expectant element accelerates removal of the symptom, but the more this element is operative, the greater the likelihood of some form of relapse afterwards; the disappearance of the symptom being proportionately unconscious on the part of the patient. The natural associate of any method of treatment is the idea of a cure, and this is permissible, and indeed unavoidable, but direct statements as to the certainty of cure in a given number of days are to be avoided.

The hysterical nature of the patient does not of course exclude the possibility of his developing acute intercurrent disease while under treatment, and it is of the greatest importance that *ad hoc* examinations, at irregular times and on the strength of the complaints made by the patient, be avoided. It is therefore advisable that the temperature and the pulse- and respiration-rates be taken as a routine every morning and evening from the inception of treatment, so as to obviate the necessity of having to take them at odd times in response to statements made by the patient.

The room in which the treatment is carried out should be small and absolutely empty, with the exception of the bed and the necessary sanitary arrangements (washing apparatus and commode). Flowers, pictures, curtains, carpets, etc., are excluded; the patient is allowed no books and no writing materials. He is visited three times a day with the necessary food, and at the time of such visits the clearing of the room is effected and the clinical observations are made. Such statements as are made to the attendant are noted, but there is to be no discussion of the clinical state between the patient and the attendant; discourtesy is to be avoided, but such replies to his remarks as are necessary are to be made in a detached indifferent manner and as briefly as possible. He should be seen by his medical attendant now and again, but he should never be given the idea that special visits are being made on his behalf, and an occasional omission of the visit is desirable every now and then on the grounds that it checks any feeling of importance on the part of the patient.

Almost inevitably, the first day or so of this régime is accompanied by vehement complaints of increased illness, but such complaints are not allowed to modify the surroundings in any way at all. They may perhaps be made the excuse to treat with still greater rigidity, the patient being told that even three visits from his attendant are too much for him, and that it would be well for him to be visited twice only. In accordance with the immutability of the surroundings, in the course of two or three days the patient states that there has been an improvement, and he laboriously demonstrates this. This is in

reality the critical period of the treatment, for if the patient be in any way complimented, or if the environment be in any way relaxed, the whole method is stultified and further progress is not made. The improvement should be casually noticed; a mild expression of disappointment is perfunctorily made as to its incompleteness, and the visit is terminated. The great difficulty here is the attitude of the patient and the attendant; if the nurse draws attention, as she must, to the improvement and her statement is quietly discounted, then the patient may receive the impression that his nurse, a skilled element in his treatment, has been rebuffed, and that she will therefore sympathize with him as opposed to the physician. Such an impression is disastrous, for it gives the hysterical element what it craves for, the idea of sympathy; it makes for hostility towards the doctor, and the continuation of treatment is liable to be associated with the destructive factor of martyrism. On hearing from the patient the statement as to the improvement, it is better that the attendant make no reply at all, but simply let the patient see that his statement as a statement has been noticed; most emphatically she must not allow him to demonstrate the improvement to her. She tells the physician of the altered condition before he sees the case, and the doctor when he sees the patient waits for the statement himself. The element of the attendant is thus eliminated, and in so far as she herself has not seen the improvement manifested, she is able to adapt her attitude to that of the physician without giving any idea of collusion.

Isolation may be made still more repugnant to the patient's orientation by the careful use of drugs after the manner indicated in the preceding section, and of course the Weir Mitchell method of treatment is operative in this direction. At the same time it is to be remembered that elaborate methods of feeding, necessitating the constant appearance of the attendant, may be conducive to the centripetal orientation, in that the patient is made to realize the *outré* nature of his treatment, and derives self-importance in consequence. The more simple and non-dramatic the method, the more effective it is liable to be.

There is no doubt, however, that this method of treatment is difficult of proper execution; the relatives in the first place constitute a formidable obstacle. It must be remembered that they are in great part responsible for the hysterical condition of the patient, and therefore their feelings towards isolation, carried out in the above way, are very hostile. Indeed, unless a definite undertaking is received from them that they will not approach the patient in any way whatever, isolation cannot be carried out at all, and in the event of the patient feeling that they are actively sympathizing with him in his

treatment, the results are liable to be disappointing, for the self-pity so induced is quite sufficient to 'neutralize' the obnoxiousness of the environment for a very considerable time. It is advisable that the necessity of this form of treatment be presented to the patient through his friends in the first instance, and although this may require very considerable tact and diplomacy in dealing with them, the results abundantly justify the trouble.

Once the patient is put into isolation, he is told that as soon as the particular symptom he manifests disappears he will be sent home, but not until it has completely disappeared.

The hysterical disabilities that are particularly amenable to isolation methods of treatment are those of the secondary variety: certain of the tertiary manifestations, such as the tonic spasms, are also satisfactorily dealt with in this way.

In defining the broad principles of treatment of hysterical conditions, it was pointed out that they consisted essentially of the presentation of an immediate environment at variance with the centripetal orientation of the patient, and in such a manner that the displeasure arising was associated with the symptom manifested. Actual isolation is peculiarly valuable in that the relief of the condition is as nearly as possible carried out in the patient's own consciousness; he consciously comes to associate the symptom with distaste, and these conscious associations in the sphere of the symptom persist and militate against the subsequent transference of an emotional tone *en bloc* through the somatic associational dispositions concerned with the formation of the somatic behaviour. They predispose, that is, to the diffusion of such an emotional tone on future occasions; in other words, the characteristically hysterical *behaviour* in response to certain emotional tones is deleted; there is no danger of relapse after such deletion. In the event, however, of the element of expectation of cure being operative, there is proportional danger of subsequent reappearance of the condition; expectation phenomena are strongly developed in hysterical people, and are not concerned with the conscious association of unpleasant associational dispositions around that which subserves hysterical behaviour.

'INTENSIVE' METHODS OF TREATMENT.

Yealland's Method.—During the recent war, certain lines of treatment were advocated for hysterical disabilities on the ground that they removed these disabilities and removed them with great rapidity. These 'intensive' methods of treatment attracted attention,

for in the hands of skilled workers the immediate results were strikingly satisfactory. The methods in question are those practised by Yealland, Hurst, and others, and, broadly, such treatment is carried out in two stages. The patient is first put into an atmosphere which conduces to the expectation of cure; he is surrounded by patients who have been successfully treated; the ward attendants constantly impress upon him the certainty of cure; the speed with which cure comes about in such cases has a dramatic element which appeals to the orientation of the patient. The second stage consists in his being taken into a room with his doctor, and he is made to realize that he will not leave that room until he is cured, and that the same applies to his medical attendant. In the event, for instance, of the condition being a tonic spasm of the invertors of the foot, the patient is energetically walked about by his doctor in an atmosphere of exhortation, encouragement, and expectation; he is never allowed to rest, and the intolerable state of affairs arising is operative in removing the symptom. The patient cannot presume vindictiveness, because everything that he is undergoing is being undergone by his doctor; there can obviously be no element of carelessness from the intensity of the method. The preceding atmosphere of expectation militates against any doubt as to the efficiency of the doctor and his treatment; all the distress of the patient is centralized in the symptom, and this subsides in an atmosphere of expectation.

There can be no doubt as to the efficacy of this method in removing the symptom at the time, but the ultimate result falls short of the cure obtained by simple isolation in proportion to the element of expectation operative in the treatment. This defect from a perfect cure is reinforced by the very 'importance' of the method; for the constant and fatiguing efforts of the doctor have inevitably this value; in other words, such treatment cannot be absolutely contrary to the centripetal orientation of the patient.

Reeves's Method.—Another method, also intensive, in the treatment of tonic spasms, is that of Reeves, and it consists of the application of passive movements to the part of the body affected in a direction contrary to that of the spasm. Thus, in cases of inverter spasm of the foot, the ankle is subjected to passive evertor movements by relays of assistants until the spasm is overcome. Relief of the condition is undoubtedly obtained in some cases, and the elements operative are the atmosphere of discomfort brought about by the actual manipulations, and the associated expectation; but there are grave defects in the method, which may, in the event of the expectant atmosphere being deficient and the passive movements being too gently applied, either aggravate the disability or conduce to rapid

relapse. In the first place, there is an acute localization of treatment to the disabled part; the condition is treated as local and not general. The necessary presence of a number of assistants imparts an impression of importance to the procedure which conforms to the orientation of the patient. The feeling of martyrism cannot be eliminated, for although there is a certain degree of discomfort borne by the manipulating agents, they do not carry through treatment the whole time by themselves, and the very necessity of their renewal tends to bring before the patient the fact that he alone has to endure the suffering. In other words, the saving element of the intensive method described by Yealland, the impossibility of specializing the discomfort to himself alone, is absent in Reeves's method; whereas the disadvantages of the former, the element of expectation, is present in the latter. The result not infrequently obtained in Reeves's method is flaccidity of the part formerly in spasm, and this entirely defeats the object of the treatment, and is liable to give the patient the idea that the treatment he has received has been responsible for the subsequent 'paralysis' of the foot.

It would appear probable that the method of Reeves would be best applied in conjunction with isolation as already described, forming, as it were, a specific Weir Mitchell treatment, with the passive movements replacing the intensive feeding. But in that numbers of assistants are required, the perfection of isolation is impaired, and mechanical appliances are not desirable in isolation, owing to the impression they are liable to give the patient that he is being treated by rule and not in accordance with his case itself. At the same time, if the initial examination can be directed sufficiently carefully, it is possible that the periodic use of a treadle machine in isolation might have value in these cases of muscle-spasm.

MASSAGE AND ELECTRICAL TREATMENT.

Massage.—With very few exceptions, massage should never be employed in the treatment of hysterical conditions. The only advantage it can possibly have is derived from the associated element of expectation; such improvement as is obtained is outside the consciousness of the patient, and is therefore temporary. On the other hand, the whole atmosphere of modern massage is charged with factors which are in conformity with the centripetal orientation of the patient, and, as practised to-day, the atmosphere of highly specialized skill and the fact that massage has a legitimate place in the treatment of organic injuries, are absolutely inimical to the correct treatment of hysteria.

There is a condition, however, in which massage for a time may

be admissible, and that is the "Babinski reflex spasm of the hand" with so-called trophic changes in the skin. Here we have stiff extended immobile fingers, and owing to the absence of the normal massaging action of the muscular movements, the skin of the fingers and palm becomes smooth, bluish in colour, cold, and bathed in sweat. Passive movements to the hand and fingers, carried out in such a manner as to be associated with discomfort, quickly remedies these skin appearances, and as it does so the general condition improves in the atmosphere of expectation and discomfort. Given that the massage be combined with isolation, a cure of the condition is easily brought about, only marred by the expectation operative. The massage in such a case ought to be purely subsidiary, and as perfunctory as is compatible with the improvement of the cutaneous condition; once there is any improvement in this it should be stopped; its utility is mainly in the direction of making the patient realize that in spite of the casualness of the treatment he is getting better, and that the real improvement is to be associated with the isolation. As quickly as possible, the manipulations of the trained masseur are to be replaced by those of the patient himself.

Electrical Treatment.—The above remarks also apply to electrical treatment; there is no indication for such treatment in hysteria. The condition is ideational, and no amount of purely symptomatic treatment can have any effect other than the expectant; such improvement as is brought about by the use of electrical methods tends to be evanescent. The high-frequency current, being uncomfortable, is less open to objection, but almost invariably the discomfort induced is associated with the operator, and it is very difficult for the physician to support the electrician and at the same time avoid the creation of an atmosphere of grievance and self-sympathy on the part of the patient. In fact, when these three methods are considered, Reeves's, massage, and electricity, we have this as one of the principal destructive elements, the intervention between the doctor and the patient of technically unskilled intermediaries. Such intervention leaves the way open for the patient to find cause for complaint, and in such a situation the doctor is on the horns of a dilemma. If he supports the actual administrators on the occasion of every complaint, the patient is bound, sooner or later, and usually rather sooner than later, to look upon himself as victimized; he sees that his statements are not taken at their face value, and he is hurt in consequence. From this, distrust of the doctor is a short step. On the other hand, the modification of the treatment on the representation of the patient is directly subversive to cure. The more the treatment of hysteria can be carried out in

the absence of third persons the better, for the doctor is always in a position to justify himself and to maintain his procedure.

Electrical treatment, of course, even more than massage, is liable to impart an atmosphere of importance to the disability, and reflexly to the patient's orientation.

Certain of these objections are overcome if the physician himself administers the treatment by electricity, but here again care must be taken, for if the patient comes to look upon every visit as presaging pain and distress, he dreads the doctor's coming: and any precaution taken to prevent the ascription of importance to his case through the daily visits is welcomed rather than considered as an element against centripetal orientation. In such cases the doctor should go on the lines adopted by Yealland, and refuse to leave the patient until the symptom has subsided, using electrical treatment as a means to the end. Such treatment falls short of the Yealland method in that electrical treatment is more exotic than making the patient walk about: the rôle played by the doctor in the latter is more on a par with that of the patient as far as discomfort is concerned, and the patient therefore cannot so readily assume victimization.

SUGGESTION METHODS OF TREATMENT.

The perfect way of treating hysterical conditions is to bring about a conscious realization on the part of the patient of the symptom as a hindrance and a source of vexation, and the more such a realization is worked out by the patient himself the more permanent the result. Methods of treatment may result in the disappearance of the symptom, but in the event of such disappearance being effected apart from consciousness, it is likely to reappear again, and the readiness with which it does reappear is in proportion to the deficiency of consciousness as an element of the treatment. In so far as the conscious element is deficient, resulting behaviour has itself the atmosphere of automatism; even in the absence of the particular symptom concerned, the patient, in so far as it is absent in such cases, manifests his hysterical condition.

It has been seen, in the discussion on hysteria, that one of the characteristics of the hysterical individual is the readiness with which events expected are completed by suggestion: cases of tertiary hysteria exemplify this, and the maintenance of all the forms of hysteria is associated with an element of expectation. It might be thought that use could be made of this tendency and that, working through expectation, such symptoms might be made to disappear, and this is borne out by practice. Given that an atmosphere of expectation of cure of sufficient intensity be brought about, the

symptom inevitably disappears ; unfortunately, however, it tends to reappear.

The reappearance is quite easily to be understood when we consider the factors operative. In the one case we have, say, the expectation of pain in the hand in the general atmosphere of splints ; a tonic spasm of the fingers is brought about as a protective mechanism, and such behaviour is automatic and performed apart from consciousness. Once the spasm is in being, the expectation has been completed and therefore persists. If now, by means of a particular individual the atmosphere of expectation of relaxation of the spasm is induced in sufficient intensity, the spasm relaxes ; but this in no way modifies the original mechanism of spasm automatically brought about when the hand is expected to be painful. Given that such an idea recurs, the spasm recurs ; given that the same individual again induces the atmosphere of expectation of relaxation, relaxation recurs. The two atmospheres of expectation have no necessary psychical connexion ; they are both in reality atmospheres associated with hysterical behaviour, only the one happens to conform outwardly to normal behaviour.

But now, in the event of the psychical mechanism, which is associated with the initial spasm, being of old establishment (not that the actual spasm itself need be of long standing), and having been 'set' in the environment of determination in an atmosphere of a powerful centrifugal emotional tone, the newly established mechanism, whereby relaxation is brought about, is liable to fade before the former ; for one thing, the emotional control of the environment of determination being absolutely less than that of adjustment in which the spasm occurs, we cannot have a similar emotional intensity operative in the formation of the atmosphere of expectation of relaxation as was operative in setting the spasm-associational dispositions. In other words, in such cases the effect of the cure by expectation wears away, and the spasm is liable to recur even in the absence of any renewed expectation of injury to the part in question.

The logical treatment of such a spasm by expectation would be, not the induction of an atmosphere of expectation of relaxation of the spasm, but rather the expectation that no such spasm would occur in the atmosphere of splints or expected injury to the particular part ; but in that the particular spasm has occurred in such an atmosphere, this atmosphere of expectation of non-occurrence is impossible of induction. Such a logical cure by expectation remains a theoretical abstraction, and the present-day cures by expectation are inevitably associated with the probability of relapse.

Treatment by suggestion falls into two groups, according as to

whether the operator deliberately takes measures to diminish the field of consciousness prior to implanting the element of expectation, or does not. In the former case, the diminution of the field of consciousness is brought about by hypnotizing the patient.

Treatment of Hysteria by Hypnotism.—It might reasonably be considered that suggestion by hypnosis ought to constitute a ready and an effective means of abolishing an hysterical manifestation: hysterical people are easily hypnotized, and they are specifically open to complete any expected behaviour by suggestion. As a matter of fact, this is the case; no more prompt relief of such symptoms is to be found after any method of treatment other than hypnosis. The work of many authorities in the early stages of the war abundantly proved that hysterical symptoms could be removed with ease by means of hypnotism. Nevertheless it is doubtful if, in the routine treatment of these conditions, hypnotism should ever be used.

In the preceding sections it has been emphasized that the ideally perfect resolution of a neurosis is that which is effective in and by the patient's own consciousness; the more the symptom is subjected, as a symptom, to the patient's conscious, destructive criticism, the more surely will it disappear, and the more certainly will it disappear permanently. The more the element of expectation is mixed with this conscious criticism, the more the resulting improvement falls short of a proper cure. In the case of hypnosis, however, means are taken deliberately to abolish conscious criticism, and at the same time the most powerful form of expectation is employed. The disappearance of the symptom is inevitably associated with the potentiality of relapse, and in so far as this occurs, hypnotism, as hypnotism, becomes increasingly associated in the psychology of the patient—not necessarily in the consciousness of the patient, though often enough it is so—with failure. Subsequent inductions of hypnosis become progressively less and less effective; ultimately it entirely loses its value even in the temporary removal of the symptom.

In the discussion of hypnotism in a previous section, emphasis was laid on the analogy it presented to the mechanism of hysteria itself; in reality the treatment of a symptom by hypnosis comes to the confronting of one form of automatic behaviour by another—opposed to the first, but equally automatic. And at the same time there is no psychical association between these two forms of automatic action; what association there is, is purely physical. But it must be remembered that the mechanism subserving the hysterical automatic behaviour, in that it was laid down in the environment of determination and under the influence of an extremely powerful

centrifugal emotional tone, must of necessity be more firmly established than the hypnotic, which is laid down in the environment of adjustment and under the influence of an emotionalism that is very much more controlled than that operative in the determined environment. Therefore it is to be expected that the effect of the hypnotic automatic behaviour, opposed to the hysterical, would fade before the latter, as indeed it does. But this fading is carried out in the consciousness of the patient, and is consciously associated; we have, in effect, the 'cure' of the hypnotic automatic behaviour by the hysterical.

Hypnosis is further open to the objection that its employment in no way is subversive to the centripetal orientation of the patient. The atmosphere of mystery and miracle with which it is inseparably associated is, on the other hand, rather in accord with this orientation. Emphatically there is no rendering of the symptom obnoxious to the patient.

It must not be thought, however, that hypnotism is never to be used in the treatment of hysteria; its rôle comes in when the symptom in itself is productive of an urgent state of danger to life which must be relieved in the shortest possible time, prior to the employment of more logical methods of treatment for the radical cure. Such states of danger are not, of course, common in hysteria; anorexia nervosa may perhaps be mentioned as one. But when it is employed in such cases it is to be looked upon purely as a temporary measure, and much in the way as the administration of morphia in acute abdominal pain. Like such administration, the diagnosis of the condition is to be thoroughly established and measures for radical treatment are to be set in train at the time. Of course, the use of hypnosis for other purposes, the induction of anaesthesia and so forth, does not come into the scope of the present argument.

Suggestion may be presented to the patient by means other than hypnotic; that is to say, in the absence of any specific diminution of the field of consciousness. This does not imply, of course, that the actual mechanism operative in the atmosphere so brought about is conscious; it is not; but at the same time the factor of consciousness plays a part in such methods. In them the consciousness of the patient is utilized by the operator to bring about or to reinforce the suggestion mechanism; in so far as it is so utilized, the results, as far as relapses are concerned, are more satisfactory than those obtained by simple hypnosis. There are, however, certain drawbacks to these methods, for whereas they are associated with many of the disadvantages of hypnosis they lack its great advantage of rapidity and certainty for the time. They may be considered under two heads: general methods of suggestion, and special.

General Methods of Suggestion.—Under this head fall all methods of treatment of hysteria presented to the patient in an atmosphere of certainty of cure; the actual means are themselves of minor importance when compared with the expectant factor, and their success or otherwise depends upon the certainty of cure which the physician can associate with them in the mind of the patient. In general the means are those which have already been mentioned, or modifications of them: incomplete isolation, electrical treatment, drugs, massage; all or some of them. Such methods form the common procedure for most cases of hysteria as met with and treated in general practice. In many cases they have satisfactory results for a time, and they may be efficient in tiding the patient over a critical period of life naturally associated with that acquisition of emotional control which does away with hysterical manifestations. In general practice the physician has the inestimable advantage of encountering the condition at a very early stage of its manifestation as a symptom: a stage which is naturally associated in the mind of the patient with cure. Definite diagnosis in such cases, prompt reassurance of the patient and his friends, emphatic pronouncements as to the inevitability of speedy cure combined with some form of what the patient is made to consider as specific treatment, quickly remove the symptom. The speed with which the symptom is removed on the occasion of its first appearance is of great importance in these cases; for in association with such simple 'ordinary' treatment the swift disappearance of the condition militates against the patient attaching importance to his disability, checks the mischievously sympathetic attitude of the friends, and reinforces the authority of the practitioner when and if the symptom returns. There is, of course, great danger of relapses, but in general practice true isolation is extremely difficult to carry out, and such isolation is, in all probability, the only method of treatment after which relapses do not occur. The mysticism of hypnosis predisposes to relapse even if the condition is treated at the very beginning.

Hysterical symptoms are often removed for a time by purely empirical suggestion, provided the suggestion appeals to the patient's intelligence as reasonable. In the event of his being uneducated and grossly uncritical, the crudest forms of suggestion are effective if impressed upon him with certainty. In such circumstances cures have been known to follow their prediction on a certain day "because it is the patient's birthday", and so forth; but their very unintelligibility to the patient measures the danger of their return.

In the case of highly-educated people such empirical methods of suggestion have to be very carefully worked out, and must proceed along lines which cannot be subjected to destructive criticism. As

mentioned in a previous section, the utilization of the patient's knowledge of a particular branch of science, provided such knowledge be incomplete as compared with that of his doctor, is one of the readiest means of bringing about a removal of the symptom for a time by empirical suggestion; but it cannot be too strongly emphasized that in so far as such methods of treatment are far removed from the ideal—the resolution of the neurosis through the consciousness of the patient by himself—and in that they in no way subvert the centripetal orientation of the ego, they are associated with incomplete cures only, and the incompleteness is manifested in the majority of cases by the subsequent relapses.

Special Methods of Suggestion: Psycho-analysis.—Under this head is to be considered the method of treatment by 'psycho-analysis'. The treatment of hysterical states by psycho-analysis is based on the assumption that psychical dissociation is associated with the removal from consciousness of the psychical representation of certain incidents; such incidents being at the time of their occurrence properly registered, dissociated from the stream of consciousness, and persistent as psychical registrations in an extra-conscious sphere, the unconscious. The registration of such incidents is taken as being possessed of dynamic energy, and dissociation is accompanied by a transference of this energy to associates of such incidents, which have not undergone dissociation. The dissociated incident-representations are, so to speak, overlaid by masses of associations, direct and indirect, which are possessed of the energy properly belonging to the incident-representation dissociated. Hysterical behaviour is considered, from the standpoint of this assumption, to be the manifestation of this energy through the media of these superposed associations in everyday life, the release of the energy occurring when and if there is a revival of certain of the associations concerned in the environment of adjustment. Psycho-analysis undertakes to 'unearth' the underlying dissociated system, and to present it to consciousness; its conscious assimilation frees the energy from the overlying associations and resolves the neurosis.

The rôle of psycho-analysis in certain forms of the mnemon-neurosis will be discussed later, but as far as hysteria is concerned we have already seen that there is reason to believe that the characteristic automatic behaviour is associated with a non-registration of the primary incident, and that there is no persistence of any sort of a psychical representation of it other than the perpetuated somatic associations intimately concerned in the somatic manifestations of hysterical behaviour. That is, there can be no revival in memory as commonly understood of the primary incident; there can be no

ideational recall. Such energy as is concerned in psychical processes is not drained from a repressed psychical representation; but its employment in the setting of somatic associational dispositions is an integral associate of its unemployment in the registration of the incident as such in the patient's psychology. There can, therefore, be no discovery of such a primary incident, however elaborate and painstaking the investigation.

At the same time, there can be no doubt that hysterical manifestations are removable by psycho-analytic methods; but the mechanism of their removal is dependent, not upon the resolution of the condition as postulated by the exponents of this school, but upon the atmosphere of expectation inevitably associated with this form of treatment. Treatment by psycho-analysis is liable to be an exceedingly exotic proceeding, and to the majority of patients is based upon principles which are utterly incomprehensible and but little removed from the supernatural. However intimate the association of 'thoughts' and 'memories' with concrete somatic manifestations may be to the psychologist, to the average patient the removal of a paralysis or a spasm by a mere statement must of necessity partake of the miraculous; such removal is certainly unaccompanied by any individual consciousness on his part.

The logical method of treatment of hysterical states is only developed in an atmosphere which is intelligible to the patient and which is opposed to his centripetal orientation; an atmosphere in which the symptom is subjected to deliberate conscious criticism on the assumption—which is true—that it is hindering his proper utility. The deliberate self-conviction to this effect is associated with the inevitable and permanent disappearance of the symptom, the somatic associational dispositions perpetuated in the environment of determination and operative in bringing it into existence, being thereby linked up with conscious associational dispositions (the consciousness and the extent of such dispositions varying with each other as already mentioned) destructive to that particular mode of behaviour in centrifugal emotional-tone atmospheres.

The lines upon which such logical methods are to proceed are best found by careful psychical inquisition, but such inquisition is very different from treatment by psycho-analysis. That is to say, preliminary psycho-analysis has its utility in finding out the atmosphere of treatment which is most likely to be thoroughly understood by any particular patient; it has no such utility in the treatment of the disability itself.

When the details of psycho-analytic treatment are reviewed, it must be realized how inevitable is its association with expectation, in spite of what the exponents of this school aver. All the numerous

'séances' lead up to the final statement: "This particular incident, experience, or memory is the 'cause' of your condition, and the proper acceptance of this will make your symptom disappear", or words to that effect; such a statement is made at the end of many interviews, during which the successful investigator has so entirely gained the confidence of the patient that no experience, however intimate, is withheld from him; in proportion to the confidence developed is the intimacy of the revelations, the faith of the patient in the personality of the operator, and the sureness of removal of the symptom. Arising out of this atmosphere we see how supremely important it is that the investigator who initiates treatment should finish it; in the event of his transferring his work to another during the process, his preceding work is nullified and the intrusion of a third person necessitates his beginning for himself *de novo*. In other words, it is not so much the method as the personality of the investigator which is operative, and in that this is the case we have the potentiality of relapse. However important psycho-analysis may be for the purpose of finding out the best line of treatment to adopt in individual cases, and however useful it may be in the treatment of certain of the mnemoneroses, it is not a sound method of *treatment* in hysteria; when employed as such it is operative through expectation and is thereby associated with the danger of relapse.

In addition to this, psycho-analysis as a method of treatment of hysteria is bad, for it is conducive to the centripetal orientation of the ego; there are elaborate individual attention, frequent interviews, and a general atmosphere of specialization, which conduce to the patient thinking of himself as a man separate and distinct and in receipt of a method of treatment which is the very extreme of exoticism.*

Methods of suggestion, hypnosis, simple suggestion, and psycho-analysis must therefore be considered inferior to those which aim at rendering the symptom consciously obnoxious in the environment of adjustment; of the three, perhaps, simple suggestion is the most satisfactory.

* In the above discussion the purely sexual conception of certain psycho-analytic schools has not been considered; it forms an extreme of the general principle of psycho-analysis. All the above statements as regards the applicability of psycho-analysis to the treatment of hysteria are applicable with greater force to the principles based upon a purely sexual theory of hysteria.

From the above remarks, it is obvious that the disappearance of a symptom on the presentation to consciousness of a 'memory' recovered by the above means in no way necessarily implies that the 'memory' is at the root of the condition, or, indeed, that it is in any way associated with it. The effective agent in the disappearance is the element of expectation operative at the time, and in accordance with its strength is the immediateness of the disappearance.

The importance of conscious disagreeable associations as a means of cure is well exemplified by the ancient method of treatment of the hysterical convulsive attack, copious douching of the patient with cold water. Given that the douching be sufficiently free, the water sufficiently cold, and that there be no preparation of the patient to receive the flood, there is inevitable cessation of the attack and an absence of any recurrence. The whole setting of the treatment is devoid of any elaboration: the means employed are absolutely ordinary; there is, in fact, an element of the ridiculous about the treatment which is utterly opposed to the centripetal orientation of the patient. The subsequent discomfort is an eloquent commentary upon the undesirability of the symptom, and is completely conscious. The important factor in this treatment is never to allow the faintest atmosphere of invalidism to intrude when the fit has ceased; it is, indeed, a good thing to make the patient clear away the mess produced.

CHAPTER XVIII.

THE DYSTHYMIAS.

IN dealing with dysthymic people, it is essential to remember the following two characteristics, which apply equally to all the different forms of dysthymia: (1) Dysthymias are conditions associated with certain specific atmospheres respectively, and a dysthymic patient is permanently unfitted for the atmosphere operative in his case. (2) He is unfitted for this atmosphere only; there is no disability as regards any other that may be presented to him. The rational treatment of dysthymic conditions therefore consists in a readjustment of the environment in which the disability occurred.

CENTRIFUGAL DYSTHYMIA: THE TERROR-NEUROSIS.

In many respects this form holds out the prospect of ready cure, as far as utility in ordinary life is concerned, but in others we are confronted with difficulties peculiar to this form of functional nervous disorder. Generally speaking it may be said that of all the dysthymic states, the centrifugal is the most satisfactory to treat. This arises out of the fact that the environment associated with the centrifugal dysthymia is highly exotic, and one which must of necessity be temporary. In that it is exotic, readjustment is easy. The majority of occupations in civil life are devoid of any intensity of the element of fear, and are therefore suitable for these patients. On the other hand, the initial phases of the condition are liable to be associated with very considerable confusion and sleeplessness, states which require active treatment before the patient is fit for activity in the environment of readjustment. In the event, however, of this initial treatment being carried on too long, the patient is liable to pass into the mnemonerotie stage, and the outlook then becomes very much more serious as far as his utility in civil life is concerned.

Treatment must proceed on the following lines: immediate removal from the offending environment; re-establishment of the habit of sleep; psychotherapeutic conversations; the rapid induction of the patient into an atmosphere of which remunerative occupation

is an integral factor. These methods in reality fall into two groups: rectification of the environment; and the avoidance of ideas of disablement.

Rectification of the Environment.—The importance of this cannot be too strongly emphasized; it is not too much to say that methods of treatment which do not insist upon it as an essential factor are unjustifiable. Ideally the environment ought to be entirely changed, not only from the standpoint of locality, but also from that of the associations which characterized the atmosphere prejudicial in that locality. During the recent war, patients with this condition certainly came home in the majority of cases; but the change of environment was one of appearance more than reality, for of necessity such patients were retained in the atmosphere of military discipline and warlike associations. It should be remembered that such people are to all intents and purposes permanently disabled as far as the responsible atmosphere is concerned, and that their residual utility is best and most quickly realized by the entire elimination from the immediate environment of all elements associated with the atmosphere in question.*

Sleeplessness.—At this stage there is one symptom which requires immediate treatment, and that is sleeplessness. All terror-neurosis cases, from the moment of their invaliding, and during the process of their removal from the environment operative, should receive routine treatment with the object of preventing any realization on the part of the patient of his inability to sleep. For the most part the subsequent sleeplessness is associated with the expectation of sleeplessness, and every disturbed night from the very day of invalidation is capable of operating more or less indefinitely in maintaining the condition. As a rule, these patients have been in the

* From the above remarks it follows that, theoretically, from the standpoint of the individual (and possibly, ultimately, from that of the community as well), cases of the terror-neurosis in war time are best dealt with by prompt discharge from the armies into suitable civil life. The practical working of such a scheme would, of course, be very difficult, for it would tend in the course of time to a more or less deliberate slackening of the emotional control operative in maintaining the soldier in an environment of danger; in other words, the incidence of the neurosis would be increased in the fighting ranks, and this would have to be set against its diminution in the base hospitals and in after civil life. But, on the other hand, careful clinical observation of the patient during the early days of the disability—his method of sleeping, his psychical state as regards confusion, and the condition of his sympathetic nervous system as shown objectively by the pulse-rate reactions, vasomotor manifestations, and so forth—would be capable of differentiating between the true terror-neurosis and those forms which are associated with a more or less wilful neglect of emotional control. The prompt enforcement of energetic disciplinary measures and the certainty of their enforcement in such cases would be effective in reinforcing this control and maintaining the efficiency of the fighting forces.

habit of sleeping well up to the invaliding incident, and the very first night in hospital or of treatment generally is to be associated with a continuance of this habit. The administration of twenty grains of potassium bromide with thirty of chloral hydrate as a draught should be a routine method of treatment for the first few days; this may be replaced in a short time by such preparations as medinal or dial; the ensuring of sleep must be taken as an integral associate of the transitional period between the invaliding incident and the establishment of the patient in his permanent environment. It is well not to give injections of morphia, which have an absolute value in the minds of many with sleeplessness: if the morphia preparations are considered desirable, it is advisable to use the sublingual method of administration.

The above remarks as to environmental alteration and the prevention of the realization of sleeplessness apply to all forms of the terror-neurosis, whether they arise on the field of battle, in the factory, the coal mine, or any other sphere of life. Treatment in the associates of the responsible atmosphere is doomed to failure from the very outset.

The Avoidance of Ideas of Disablement.—The principal danger of the terror-neurosis, and, indeed, of all the different dysthymias, is of the supervention of the mnemoneurosis. As has been seen, the mnemoneurosis supervenes upon a functional nervous disorder of the dysthymic class in association with dread and worry; anything that conduces to the incidence of dread tends to the conversion of dysthymic into mnemoneurotic cases. Naturally the tendency to dread varies with the different forms of dysthymia and with different individuals, and of the dysthymias it is probable that the terror-neurosis is least likely to pass into the mnemoneurosis; but at the same time such conversion is common enough, and as a result a functional nervous disorder which should give rise to little or no disability in civil life becomes one which is liable, not only to render the individual useless to himself and the community, but also to endanger his life in the course of time.

Psychotherapeutic Conversations.—Certain dreads which all sufferers from the sympathetic neuroses are liable to must be recognized and must be forestalled, and their recognition must of necessity precede their occurrence in any one individual patient; to this end psychotherapeutic conversations are directed. Such conversations consist, for the most part, in reassuring the patient as to his unimpaired utility in a normal environment of adjustment; convincing him that the sooner he undertakes occupation that is suitable in such an environment the quicker will his condition subside, and, above all,

impressing upon him that he has no organic disease of the heart, the brain, the abdominal organs, or limbs. In any sympathetic neurosis there is a tendency to rapidity of the heart's action, and a corresponding tendency on the part of the patient to consider that he has 'heart disease', and is thereby liable to sudden death; the health of the heart must be insisted upon and emphasized; the patient is to be told that for some little time to come he will experience palpitation, but that this in no way indicates heart disease. The first examination of the patient should be impressive in its thoroughness; after this, subsequent examinations are best avoided: the first examination is to be put through as soon as possible after the invaliding incident.

The patient is to be convinced that his condition is in no way serious, and in no way disabling as far as his ordinary life is concerned. To this end, therefore, the sooner the atmosphere of invalidism is removed, the stronger will the conviction be that the disablement is of a purely temporary nature. The patient is not to consider himself an invalid until he feels normal again; the feeling of fitness is best attained by removing from him as soon as possible the associations of incapacity. During this period psychotherapeutic conversations are to be continued, encouraging and reassuring him.

Remunerative Work.—As soon as the patient has been satisfactorily removed from the responsible environment he should be given some form of remunerative work, and it is of the utmost importance that the work should be remunerative. If, as is so often the case, he be given occupation merely, being supported quite apart from the results of such occupation, then this very exoticism conduces to the feeling that, after all, he is still invalided; this in the course of time impels him to the belief that there is some cause at work which is not obvious, and then the destructive element of dread enters. Certainly it may be a matter of some difficulty to obtain the kind of work suitable, but in the great majority of cases the work which the patient used to do, and at which he was competent, is the kind of work he should do. The mere fact that subsequent experiences have rendered a certain atmosphere inadmissible in his case, need in no way incapacitate him for his original environment.*

* It must be remembered that in the above discussion cases are considered that have been logically treated from the outset. Cases that have not been so treated, but which have been kept in hospital for long periods, cannot be taken as typical of the terror-neurosis. When in the course of time such people are discharged, they themselves feel very little different or more capable of working than they did; their discharge impresses them as arbitrary, and they become resentful and very difficult to treat. Once the terror-neurosis patient has had a few good nights' sleep and has been removed from the faulty environment, he is as fit as he ever will be for useful occupation; the retention of such people for indefinite periods in hospital is so much waste of time and an impediment to their future utility.

Given that the above line of treatment be adopted, then the somatic symptoms of the condition quickly subside; the tremors improve with the occupation, and the pulse-rate falls. The mental confusion and the associated stammering are also relieved as soon as the conviction is gained that the disablement is very much more apparent than real as far as health is concerned.

A most important point in the welfare of these people is their tendency to relapse, and the attitude adopted towards such relapses when they occur. Given that the case was initially treated as it should have been, in the course of the psychotherapeutic talks the probability of relapses will have been mentioned in passing, and their triviality impressed upon the patient. In no case should he ever be re-admitted into hospital when once he has been discharged; any indication of an impending relapse is to be immediately treated, with as little interruption of the daily life as possible. Sleep is to be secured; it is rare in relapsing cases to find any powerful hypnotic necessary. For the most part, medinal or dial for a few nights is sufficient. The patient should be reassured again, and encouraged to keep on with his work; the more he can be induced to look upon his condition as a nuisance rather than an illness the better.

It has been asserted that terror-neurosis patients should be encouraged to talk over their specific experiences from time to time with their friends, on the supposition that such conversations militate against any 'repression' of the terrifying incidents and thereby lessen the likelihood of a recurrence of symptoms. Certainly there should be no forcible and unnatural prevention of a man talking over what may well have been occasions for legitimate and proper pride, if and when he cares to do so; any compulsion in this respect with such a man may be conducive to straining an emotional control for the atmosphere concerned which we have seen to be permanently weakened; enforced silence in such circumstances is to be deprecated. But, on the other hand, people should not go out of their way to revive these conditions; it is unwise to intrude into the environments of utility the associations of the terror-environment, and in many cases it may be productive of serious harm. Especially is this the case in the earlier phases of the condition; in the later stages, when the patient is altogether free from symptoms and living a useful life, then, if he cares to do so, he may discuss his war experiences just as any other memories.

THE ANGER-NEUROSIS AND THE CENTRIPETAL DYSTHYMIAS.

The treatment of these conditions may be considered together, for in both cases we are dealing with distortion-neuroses arising in an environment which is in no way exotic, as is the case with that

concerned in the evolution of the terror-neurosis. The same principles of treatment obtain for these states as for the terror-neurosis: rectification of the environment concerned and the avoidance of ideas of disablement. But it is obvious that in so far as the environment responsible is that which has been 'usual' to these people, and in which they have lived for a great part of their lives, adapting to it their occupations, manners of living, and so forth, any radical rectification without at the same time bearing the implication of disablement is extremely difficult to effect; it must be remembered that with these conditions, just as with the terror-neurosis, the environment responsible remains permanently inadmissible as far as the patients affected are concerned.

The Anger-Neurosis.—It must be acknowledged that in modern states of civilization a complete cure of this form of functional nervous disorder is not to be expected; the most that can be done is to render the condition as little obtrusive as possible. The elements chiefly operative, conjugal and domestic, cannot be deleted from the life of the patient; whereas the third factor, congenital determination, renders the development of the mnemoneurosis easy. It is essential in the early stages of the condition that the patient should be removed from the home atmosphere, from husband, children, and servants; but the potential dread of insanity contra-indicates the employment of any special 'home'. A general hospital, or a general nursing home, may be used for the first few days for the purpose of reinducing the habit of sleep; but such institutions are only to be used for a very short time, and as soon as the patient has had good sleep for three or four nights, she should be sent away for a holiday. The locality is to be left to the patient to select, and the only essential such a locality should have is that of being a source of pleasurable anticipation to the patient. It is better for the patient to go alone, and in no case ought her husband to accompany her. In certain circumstances one or more of her children may be allowed to go with her, but in such circumstances the holiday is best taken at an hotel, so that domestic worries are avoided. As a rule, it is very much to be preferred that the patient should leave all the home associations for a time.

The majority of these cases have preceded their breakdown by a somewhat vivid social life, and it should be emphasized that such distractions are not to be indulged in during the period of rest. In fact, such engagements may serve a useful purpose; it is always advisable not to lay stress upon the real elements that have been at work in the case, but rather to let the patient think that she has exhausted herself in her social life. A restful, quiet life may

then be enjoined without giving rise to the impression that she is seriously disabled.

These points are to be dealt with in the course of psychotherapeutic conversations, and the patient is to be told that it will be necessary for her for some time to come to take these forms of holidays. Such interregna in the domestic life afford the best and most practicable method of lessening the operative elements of the condition: patients with this form of dysthymia should not spend year after year in the constant company of her husband, children, and servants. The condition is not cured in this way, but it is rendered less obtrusive.

At the same time, good may be done by talking with the husband, and explaining to him the facts of the case. Under certain circumstances a radical modification of the faulty conjugal relations may be thereby effected, and domestic-servant worries may be effectively relieved: in such circumstances the possibility of a definite cure can be entertained. But these cases are rare, and in general a semblance of health alone is obtained by the frequent prescription of 'holidays' away from the home atmosphere.

The duration of the holiday is dependent upon the patient herself, but as a rule nothing under six weeks is likely to be of value, and the patient must be warned against returning on the first experience of the desire to return.

The majority of these cases are only seen in the mnemonerotic phase, the treatment of which will be discussed later. Generally speaking, the anger dysthymia is a difficult neurosis to treat and the results at best are unsatisfactory.

The Centripetal Dysthymias.—The principal difficulty in the treatment of the centripetal dysthymias is the fact that in the majority of cases they are in the mnemonerotic stage when first seen. This, to a large extent, is accountable on the ground of the 'ordinariness' of the dysthymic symptomatology: moodiness, fretfulness, and disturbed sleep not being considered an illness in the common acceptance of the term by the majority of people.

In the event of the patient coming up for treatment in this stage, the same principles are to be observed as with the preceding forms of dysthymias: the environment is to be changed, and the patient is to be considered as permanently disabled for the environment concerned. Generally this means abandonment of his or her occupation, and the outlook as regards an apparent cure is dependent upon the completeness with which this can be effected. This again to a large degree depends upon the age of the patient and his social condition, as regards marriage, family, and so forth; a young man without

domestic responsibilities being very much more amenable to a radical alteration of occupation and life than others not so situated. In many cases a careful preliminary psychical inquisition will readily reveal the fact that the patient's actual occupation is opposed to that which he desired and still hungers for. He should then be told that the chance of his regaining his peace of mind and general happiness depends upon the ability he shows in getting out of the groove into which he has fallen and of going through the necessary drudgery of learning another occupation: given, however, that the occupation in question is one for which he is adapted, the preliminary drudgery is not a phase to be dreaded. If, however, the patient is well established in his work and has to maintain a family, such a course is not to be advised without very serious consideration: the mere fact that he has to alter his whole life at such an age bears the implication that he has been a failure at his work, and the age militates against the required vigour for the taking up of a fresh sphere of work: depression thereby is liable to supervene all the more readily. In such cases it is best to aim at, not so much the radical alteration of the environment, as its relief by means of judicious holidays and such distractions as golf, bicycling, gardening, and so forth. The patient in these circumstances is to approach these 'relaxations' with the idea of perfecting himself therein: in other words, they are to form serious occupation for him, and to afford the next best procedure to altering his means of livelihood. Golf and bicycling, from the standpoint of exercise alone, are of no use in these cases: they may prove positively harmful if they are considered as so many more forms of dreary duty, to be gone through purely therapeutically. But if the patient be induced to take up one or other from the standpoint of making good at them, then they in themselves form a new occupation in the true sense of the word: they are not remunerative, it is true, but increasing efficiency supplies the defect. Needless to say, the actual form of relaxation varies with each individual patient, and here again the initial psychical inquisition is of fundamental importance in affording evidence as to what form of 'hobby' is most likely to be approached in the proper way.

If, therefore, it is impracticable to alter radically the patient's occupation, on account of age, responsibilities, and so forth, he must be made to take up some form of game or hobby, but to take it up seriously, and to avoid dilettantism. Given that the condition be first encountered in the dysthymic phase, relief of the symptoms is probable, and, as indicated above, if the occupation can be completely changed and a fresh environment secured, it is reasonable to expect a cure.

Sex Dysthymias.—The centripetal dysthymias associated with sex form a very difficult group to improve, the tendency in modern states of civilization being against early marriage. Many men and women must view their advancing years with increasing dismay in this atmosphere of compulsory, or what they consider compulsory, sexual abstinence; it is to be emphasized that sexual congress apart from marriage is in no way a procedure to be recommended. The dysthymic state arises not out of desire for the sexual act, but out of the whole atmosphere of which sexual congress is but one element; an essential element certainly, but by no means the only or the most important one. This is well brought out by the fact that some of the most typical examples of the sex centripetal dysthymia that I have seen have been in married people, but in people who have been in the habit of systematically guarding against the possibility of conception. The disrepute of casual intercourse, its ugliness and entire meaninglessness, serve but to emphasize the desirability of marriage with its atmosphere of domesticity and children and self-respect. It is the lack of this atmosphere which is operative in the formation of the sex dysthymia; and the advice that is occasionally given, that the patient should seek such sexual gratification as he can get without marriage, is very often, if not always, instrumental in aggravating the condition. These patients should be definitely told that the choice of two paths, one or the other, lies before them: either they can continue with their existing life, earning money at the expense of their functional nervous stability, or they can get married, risking their financial prospects, but ensuring their mental health. The probability is that, when married, the renewed incentive to work will more than compensate for the additional responsibility. As in the other forms of centripetal dysthymia, the sex dysthymic condition is in the majority of cases only seen in the late or mnemono-neurotic stage, when the mischief is to a large extent completed. The sex dysthymia calls for no alteration of employment and no medicinal treatment; such patients do not benefit by being sent away; the whole problem is to be dealt with in the course of psycho-therapeutic conversations.

DYSTHYMIAS IN HYPERTHYMIC PEOPLE.

In these cases it is to be remembered that the chief element operative in the manifest symptoms is deficient emotional control; this colours the ordinary dysthymic symptoms, and renders what would otherwise have been a slight dysthymia a somewhat dramatic disability. Treatment is to be devoted as much to the regaining of a degree of emotional control as to the abolition of the symptoms in

question. In the majority of cases patients in this condition are young, and to a certain extent amenable to methods of treatment which have this as their main end. The actual methods of treatment are the same as with the normal dysthymic states, only a rather more 'compulsory' attitude has to be adopted. If left to themselves, hyperthymic dysthymia patients will not adapt themselves to any new environment that has not the element of invalidism; they demand a sympathetic or rather a sentimental atmosphere, and in the event of their not obtaining it they become resentful and hostile to treatment generally. The only proper attitude to take up with them is to make them stand or fall by the work they do; in no case is this work to be subsidized. Given that some form of new occupation be found for them, then they must be made to understand that its inefficient performance will be fraught with exactly the same results as inefficient work in any other sphere of life—with material hardship. If this method of treatment be properly carried out, and the friends convinced that however disabled he may be for certain specific activities he is perfectly capable of others, then in the course of time emotional control is re-established and the patient does good work. As a matter of fact, hyperthymic dysthymia is associated with the possibility of fairly complete cure, for the dysthymic symptoms proper are manifested in an atmosphere in which the distortion element operative has been of slight intensity as regards duration; the lack of emotional control inherent in the hyperthymic state acting, so to speak, as the fuse-wire of an electric circuit and invaliding the patient before any specific emotional control has been seriously strained. If, in the course of treatment, emotional control as a whole be established, then the feebleness of the distortion indicates a proportionately complete cure.

Here again, however, the indications for treatment are simple, but the putting of them into practice is difficult. In their home surroundings these patients will not work with any regularity; and their friends cannot be made to understand why any one who is apparently ill must be made to do so. Patients ought to be sent away from home and should be made to live an entirely independent life, supporting themselves by their own exertions; they should be made to establish their emotional control.

As a rule, as has been said, hyperthymic dysthymias occur in young people; they are to be found in older life, and then the prospect of cure is remote. The chances of improvement are strictly proportionate to those of establishing emotional control, and the older the patient the less these latter are likely to be.

Institutional Methods.—An interesting method of treatment in these hyperthymic dysthymic cases, and one which is associated

with improvement in a certain number, is the utilization of the *voluntary boarder* system at an established mental institution. It occasionally happens that some of these cases are certified as insane (especially the hyperthymic centripetal dysthymias) and are removed to an asylum; in the course of one or two months they are discharged as cured. The patients themselves invariably date their improvement from the time when, realizing that medical stupidity will not recognize their essential sanity, they recognize this stupidity and 'play up' to it; in other words, they pretend to be improving and they force themselves to act normally. In the course of time 'the doctors are cheated', and the patients are sent out as cured. And as a matter of fact they are cured, or if not entirely cured, they are well enough to carry on with their normal avocations.

What has happened in these cases is, of course, the recognition of the necessity of controlling their emotionalism, and every hour spent in 'pretending' is an hour spent in gaining emotional control. And, after discharge, the fear of again being sent back maintains the emotional control and militates against relapses.

Given that such patients can be persuaded to enter such institutions as voluntary boarders for a sufficiently lengthy period, the same factors will be operative with the same result.* Such patients should enter into an agreement for a very considerable length of time, and should be made to understand that they will be retained for that time unless and until an improvement occur.

* It need hardly be said, of course, that in the true sense of the word these patients are 'insane'. That is, they are unable to look after themselves and their affairs; they are liable to be dangerous to themselves and to others; and they interfere with society (Maurice Craig). But their 'insanity' does not bear the implication commonly borne by the word, and it is certainly not an intellectual insanity.

CHAPTER XIX.

THE MNEMONEUROSES.

IN discussing the treatment of this form of functional nervous disorder, it is of importance to remember that we are dealing with patients who, through faulty upbringing or a precedent functional nervous disability of the dysthymic group, are maladapted to their environment, and in whom the factor of dread has been and still is operative. Mnemoneurotic symptoms supervening upon preceding organic disorders will be touched upon in so far as the organic disabilities in question are, as such, quiescent.

THE SIMPLE FORM OF THE MNEMONEUROSIS.

The essential element in the treatment is the removal of the dread, and upon the ability to do this rests the prognosis as far as succeeding arteriosclerosis is concerned. The complete removal of dread must precede the treatment of any condition which may have predated the mnemoneurosis. It is always to be borne in mind that the intervention of dread upon a functional nervous disorder renders the patient potentially arteriosclerotic, is liable to shorten his life, and, at the best, to make him prematurely senile.

Removal of dread may be fairly easy, and the readiness with which it is removed is proportional to its duration; the longer it has existed the more difficult is its removal. In many cases such removal may be exceedingly difficult; dread in certain situations may, in fact, be entirely reasonable and an inherent associate of a given environment. The cases which concern the physician for the most part are those in which the dread operative is developed in the atmosphere of anticipated bodily disease, and this is to be dealt with in the only reasonable manner; the patient is to be subjected to a searching clinical examination, reinforced if need be by special x-ray and laboratory investigations, and associated with a psychical inquisition on the lines already indicated; he is then to be told that he has no cause for fear as far as progressive organic disease is concerned.*

* Of course it is understood that the patients in question have not passed into the stage of organic arterial degeneration, and that their condition is in reality functional.

Psychotherapeutic Conversations.—The statement just referred to must be made in a manner that will leave a lasting impression on the patient, and the results of the psychical inquisition will have indicated the lines along which the particular patient is most susceptible to such impressions. These lines are best developed by two or three careful psychotherapeutic conversations, in the course of which the patient is not only impressed with the fact that he has no organic disease, but also that there is no indication to render such disease probable. Many of these people are extremely intelligent, and categorical negatives and denials, unsupported by any evidence which they can appreciate, are liable to defeat their own object and to convince such patients that they are being merely shielded from the unpleasant truth that serious disease does exist.

Very few laymen are capable of realizing the nature of functional disabilities of the nervous system, and often enough, passing from one doctor to another and being consistently told that they have no disease to account for their symptoms, and yet at the same time being acutely conscious of the fact that they are utterly unfit for their usual life, the fear is developed in them that they are becoming insane, and then the very fact that they are convinced that they have no organic disease reinforces this most destructive factor. In other words, they must be given some quite clear and intelligible reason for their condition, and the reason given must not in itself be associated with dread for the future. It is a point that must have impressed most physicians who have dealt with this class of patient, that very often the solemn discovery by some one that the individual in question has all the time been suffering from 'anæmia' or 'latent rheumatism' or 'suppressed gout' has been followed by striking improvement; the patient is able to anchor his symptoms down to some condition which, to him, is definite and concrete, and which has no inherent terror. Given that the physician understands the mechanism which he has set at work, there is nothing to be said against such statements; if they have been associated with improvement, the utmost care is to be taken that the patient's confidence is not undermined by statements which may perhaps be more academically correct, but which only serve to set him again adrift on a sea of worry and dread.

The removal of dread, therefore, is not only to be associated with definite and positive statements as to the absence of organic disease; it is to be accompanied with a reasonable and intelligible explanation of the cause of the disorder.

Rectification of the Blood-pressure.—Steps having been taken for the removal of dread, by means of careful clinical examination

and subsequent reassuring statements incorporated in psychotherapeutic conversations, attention is to be directed towards rectification of the high blood-pressure. This is to be dealt with in the usual way: the patient is sent to bed for a time, kept on a light, easily assimilated diet with a minimum of nitrogenous components, and is put on to one or other of the different vasodilatants. Personally I have had the best results with iodides, and a useful preparation is the following:—

R Sodii Iodidi
 Sodii Bromidi ãã gr. viij
 Spiritus Ammoniae Aromatici ℥ viij
 Spiritus Chloroformi ℥ v
 Aquam Camphoram ad ʒss
 Three times daily between meals.

The iodide content is to be increased as occasion demands, and the action of the drug is to be checked by hæmomanometric observations from time to time.

Treatment of Sleeplessness.—Defective sleep is to be dealt with by such substances as medinal or dial, but their administration is not to be continued for any length of time. As a general rule it is well for the patient to have a thermos flask of hot milk and a few biscuits at his bedside; in the event of his waking up during the night and being unable to get to sleep again, he should be encouraged to sit beside his bed for a time, and take the milk and biscuits.

The duration of this stage of invalidism depends upon the success of the methods adopted for the relief of the dread, and the subsidence of the blood-pressure. As soon as the doctor is satisfied that the patient is convinced of his curability, and as soon as the blood-pressure lessens, then he should be sent away for a holiday.

Holidays.—There are one or two points of importance in the prescription of holidays in these cases, and probably the most important is that the patient in going away, however lengthy the proposed absence, must do so with the full conviction that he is ultimately returning to resume his work. There must be no doubt of this in his mind; his attitude on this point is an essential associate of the conviction of curability. The patient who leaves his home feeling that he is to a certain extent on his trial as far as his subsequent work is concerned, will gain very little good from his holiday; and if he does not expect to come back to his work at the end of it, he will gain no good at all.

As regards the locality to which the patient should be sent, this, within certain broad limits, should be settled by the patient himself.

There is no one place which has any absolute value in this respect ; but the place to which the patient is himself attracted is the place to which he should be sent. The whole idea of sending him away at all is to impart to his life the element of enjoyment which has been so conspicuously lacking up to the time of his breakdown, and this enjoyment is not to be forced. Because to one patient a quiet monastic seclusion in the depths of the country is the ideal, and life there to him gives the completeness of mental change and enjoyment which restores him to health, it by no means follows that all patients with the same disorder should be sent to a similar place. To many such an existence would be one long punishment, and would aggravate the condition from which they suffer. At the same time the feverish excitement of the big modern watering-places is rarely, if ever, to be advised, however much the patient may be attracted thereby.

Sending the patient away is a course which is necessary on many grounds, the first and most important being the element of enjoyment he may be expected to derive therefrom. But it must also be remembered that in so far as the home surroundings have been operative in the development of the disorder, all home associations should be for the time eliminated ; in other words, the patient should not go away accompanied by his family. To do so is simply to attenuate the completeness of the change ; in the event of his needing companionship it is very much better that he should have that of some non-related friend.

The change of environment may also be utilized for the purpose of forming, or perfecting, some particular interest with a view to the future. In many cases of the mnemonia, particularly those who are over middle age, the prospect of their ever being able to take up their original occupation with their former efficiency is remote ; such patients are not to be retired from their work, but they are to intrude into it fresh interests and to relax gradually their purely utilitarian activities. Golf, gardening, bicycling, sketching, photography, and so forth, are exceedingly important factors in this respect. The holiday is well adapted for the formation of such interests, or their perfection, and the skill so gained is likely to be of the utmost value in the after life of the patient. The first part of the holiday is to be considered mainly as recuperative and preparatory in this respect, but later, in the case of young patients who may reasonably be expected to return to their original work, it should be made to include elements which may be of value to them in this work. Foreign travel, with the idea of visiting places with which their business interests are allied ; inspection of different universities and teaching centres in the case of the learned professions ; these

and other interests may be subserved in a useful atmosphere of enjoyment. The experiences gained are likely to be of material value and also of psychotherapeutic utility, in that they increase the patients' ideas of their own usefulness.

Work.—Finally, the question of the patient's work is to be considered, and this question, both from the social and the therapeutic point of view, is of the greatest importance. In general it may be said that under no circumstances is the patient to be given the impression that he is permanently unfitted for his work, however justified such an impression may be.

From the nature of the breakdown it is true that the work concerned, *under the conditions which obtained up to the time of the breakdown*, is inadmissible, but the patient is not to think that the work itself is contra-indicated. Given that the conditions in which the work has been performed are altered, then the original work is in all probability the most valuable of all therapeutic agents.

Unfortunately the main condition to be rectified, the elimination of the element of dread, is also liable to be the most difficult, for, as already indicated, in certain social conditions it is to be recognized that dread is perfectly reasonable. In so far as it is reasonable, a proper cure is not to be expected; but the patient is the last person to be allowed to realize this. The definite retirement from work in these circumstances is ideally wrong, for this, more than anything else, justifies the dread under which he has been labouring for years; it converts the case into one of 'completed dread' and unalterable invalidism.

In the case of a young patient it may be necessary to alter the work, but this should only be considered when there is a strong inclination to some other form of activity and when financially and socially this activity is practicable. Otherwise, fresh interests are to be intruded into the original work; when the patient is sufficiently young these interests should be intimately associated with the work itself; he should utilize his holidays and spare time in developing them as already indicated. In the case of older people the semblance of work is to be retained, but it is to be diluted with other interests not necessarily associated with it; such patients are to be encouraged to work, but to take their work easily, and to take up some extraneous 'hobby'. But such hobby as they do take up is to replace the work they relinquish, and is therefore to be entered upon seriously and apart from dilettantism; they must 'make good' at it, and thereby add to their self-respect. According to the completeness with which they do this, improvement is to be expected, but it must be admitted that with the majority such improvement as occurs is but slight.

Elderly people who break down with the mnemoneurosis are in reality in the preliminary phase of organic involutionary disease, and the only indication for treatment is the prevention of their realization of this state of affairs. Under no circumstances must they be enabled to look upon their lives as 'finished'; and retirement from their work inevitably has this implication.

SECONDARY HYPERTHYMIA: INSTITUTIONAL TREATMENT.

The mnemoneurosis in the hyperthymic stage constitutes what is probably the most difficult of all the different neuroses to treat satisfactorily, and the results at best are liable to be very disappointing. Generally, the indications mentioned above are applicable to these cases; but with all the different methods of treatment, and at every stage, a 'disciplinary' element is to be introduced. The patients in question, in addition to being emotional, are exceedingly hard to convince, and the psychotherapeutic talks are to be proportionately vigorous and to the point. Such conversations are to be repeated over and over again; as far as possible, every element of sentimentalism is to be avoided. The stage of invalidism, devoted to the relaxation of the blood-pressure, cannot be properly carried out in the home surroundings; these patients ought to undergo this stage as voluntary boarders at some mental institution. This is, in fact, the crux of the treatment. As far as possible at every stage the patient is to be dealt with by strangers, before whom he has to keep up some form of emotional control. His holiday should be taken with some non-related friend who can be depended upon not to indulge in the patient's sentimentalism and before whom the patient has to 'keep up appearances'.

In the case of patients sufficiently young, considerable emotional control may in this way be regained; it is only to be regained by disciplinary methods and an entire absence of all sentimentalism at all stages of their treatment. In the case of older people the prospect even of improvement is remote, and a patient in the late forties who is in the hyperthymic stage of a mnemoneurosis is to all intents and purposes permanently unfit for any form of useful life. Realization of this is to be kept from him as far as possible, and even in the hyperthymic stage these patients should always have before them the possibility of resuming work.

THE OBSESSIVE FORM OF THE MNEMONEUROSIS.

This variety of the mnemoneurosis differs from those already considered in that it holds out the prospect of complete cure in the event of the primary incident concerned being discovered and

properly presented to consciousness. It is in this form of neurosis that psycho-analysis as a method of treatment, as opposed to psycho-analysis as a means to diagnosis and as an index for treatment, holds a dominant position.

Psycho-analysis.—It is not proposed to enter into detail as to the technique of psycho-analysis; it may be noted, however, that the experience gained during the war indicates that the most efficient procedure is that of thorough and most searching cross-examination, and not that of 'free association'.

A point of fundamental importance is the establishment of the period at which the dread was first experienced: this should precede any attempt to find the incident associated with it.

Having obtained this information, the patient is cross-examined with reference: (1) To the elements of the obsession as shown in his everyday life; (2) To the incidents of his dreams, especially those which are associated with a powerful emotional tone, or which are most readily lost to memory.

The patient should not be approached with the dominant idea that sexuality is at the root of his trouble: the analyst is to preserve a perfectly open mind as regards this factor.

The mechanism of the cross-examination does not differ materially from similar investigations of a non-medical nature: it is of the utmost importance to remember that the patient answers questions in at least two ways, articulation and general behaviour, and of these two the latter in many cases has the greater value. Flushing, restlessness, irritability, sullenness, carelessness, insolence, and the like are as much responses to a question as the actual words in which the patient replies; in fact, often enough they are of greater value, for whereas words may and often do mask the patient's real attitude to a point raised, his manner at the time of answering betrays him in spite of himself.*

The discovery of the particular incident associated with the

* It must be remembered that patients in civil practice are in a very different position as regards psycho-analysis from those in a military hospital. Any one who has performed psycho-analysis realizes how surely, as the proceeding goes on, the patient, sooner or later, becomes angry; the very remorselessness of the questions, quite apart from their implication, induces in many a feeling of bitter hostility. In military hospitals the patient had no chance of altering methods of treatment, but in private practice he has, and in this country at least it is doubtful how far really thorough psycho-analysis is practicable in ordinary practice. The trouble is still further complicated by the fact that the first sitting or so is often followed by an exacerbation of the symptoms, reinforcing the hostility. Fortunately, however, in many cases the psycho-analysis has not to go very deeply and need not be prolonged; many cases of the obsessive mnemonia being cleared up as the result of a careful though less ruthless examination.

obsession does not complete the case ; the incident has to be presented *properly* to consciousness.

From what has already been said it is obvious that a categorical, bald statement that a certain particular incident is at the root of the patient's disability is not the logical termination of the method of treatment under discussion. Throughout the treatment of all the neuroses the golden rule must be remembered : the ideal cure of a functional nervous disorder is its resolution in the patient's own consciousness. In the majority of cases this is a counsel of perfection, but each case ought to be approached with this principle in mind. As the analysis progresses the patient ought to be continually impressed with its rationale ; every opportunity is to be taken of pointing out how a far-off incident can, and does, become a focus around which abnormal behaviour develops, and when in the course of time the critical incident is discovered, the patient ought to feel no element of amazement at the idea that its presentation to his consciousness will resolve his symptoms. In the more intelligent type of patient the final discovery of the incident and its therapeutic significance are best realized by the patient for himself, but in many the discovery is to be associated with a demonstration of the mechanism which it has been instrumental in working.

Provided a case of the obsessive mnemoneurosis has been taken in hand sufficiently early, the results of careful psycho-analysis are liable to be most gratifying ; but it must be remembered that all forms of the mnemoneurosis are prone to the development of hyperthymic symptoms, and in the case of the obsessive variety the specific fear in the course of time becomes associated with a general dread of insanity and the ordinary type of the mnemoneurosis, which is very much more difficult to treat efficiently, especially as the hyperthymic stage in such cases is very quickly assumed. In these cases the primary incident is to be recovered, and the cases dealt with subsequently as the ordinary form of the mnemoneurosis in the hyperthymic stage, along the lines already indicated.

Hypnosis.—The type of mnemoneurosis, already briefly referred to, characterized not so much by relative inattention for preceding events as relative hyperattention for succeeding incidents, and which has been especially studied by Myers and William Brown, is not likely to be met with to any extent in civil life ; it would appear to be a peculiar product of the war and to be essentially associated with the progressive formation of the hyperthymic state ; an increasing emotional uncontrol rendering the emotional content of any one situation feeble in comparison with that which attaches to succeeding situations. This being so, the emotionalism of an atmosphere away

from the fighting line is of necessity exceedingly feeble; such patients in hospital are apparently but partly conscious; they are dreamy, or subject to dreamy states; they are mentally dull, and their behaviour is more or less mechanical. They are in reality in a condition analogous to that of the non-human animal in familiar surroundings (using the word 'familiar' in the sense already discussed, and as implying the absence, for the time being, of any emotion-provoking incident in the surroundings); they are more or less passive.

In so far as these people are hyperthymic, their emotionalism is uncontrolled; it is improperly diffused, and advantage may be taken of this for the induction of hypnosis. If such patients be made voluntarily to concentrate their attention at the request of the hypnotist, and if in the hypnotic state battle-incidents be suggested to him, then the recent terror-laden events are revived in memory and are associated with an emotional tone, the intensity of which is proportionate to that which prevailed at the time of occurrence of these events, and, therefore, to the degree of hyperthymia operative. These events are to be looked upon as strictly analogous to the forgotten primary incident of the ordinary form of the obsessive mnemoneurosis; only, whereas in the ordinary variety there is no emotional-intensity abnormality as far as the individual is concerned—such people being centrifugally orientated, it is true; but this orientation being constant for the individual throughout life—in the variety under discussion there is; the emotionalism concerned being of an intensity which renders its recurrence very unlikely. Hence the recovery of the events which are to be considered as acting as primary incidents is, in the patient's conscious life, of unlikely occurrence. In the usual form of the obsessive mnemoneurosis, where there has been no such emotional exoticism, recovery in consciousness by sufficiently careful methods of investigation is the rule. We are then faced with this problem: in these war obsessive mnemoneuroses, efficient recovery of the incidents responsible is only possible in an atmosphere of lessened consciousness such as hypnosis; at the same time, efficient cure of the condition is only possible through the intervention of the patient's own consciousness.

The method adopted by Brown, and which, according to him, is exceedingly successful, is the combination of *light* hypnosis with associations of consciousness. The patient is lightly hypnotized and battle-incidents are suggested if necessary; the patient manifests his characteristic behaviour, living through the recent fighting with all its fury and terror in an atmosphere of uncontrolled centrifugal emotionalism. The hypnotizer now attempts to link these events up with current incidents, and, as consciousness is allowed to return, the

patient is made to associate the responsible incidents with those happening around him at the time. The patient is thus made to synthesize his exceptional experiences with his ordinary life, and for this to be efficiently done the hypnosis should be very light and the hypnotizer should take advantage of every little incident occurring at the time.

From the published records there can be no doubt as to the efficiency of this method of treatment in easing the direct symptoms of the condition, the mental dullness, dreaminess, and depression; but it must always be remembered that these cases are hyperthymic and liable to the formation of a centrifugal sympathetic neurosis. The immediate hypnotic treatment is to be considered as a method of urgency, and as soon as the serious symptoms disappear the patients ought to be separated from the environment of invalidism and put to non-military remunerative work on the lines already indicated. Needless to say, they are permanently disabled for further army service.

Cases of the mnemoneurosis, whether of the ordinary variety or the obsessive, are most liable to occur in centrifugally orientated people; and however much the mnemoneurotic symptoms are improved, this orientation cannot be radically altered. These patients are always liable to introspection and worry; they are therefore always liable to outbreaks of their original trouble. In so far as an individual is centrifugally orientated, he requires constant watching; he should be unobtrusively given psychotherapeutic conversations, and his physician should always be prepared to vary or to alter his work, quantitatively or qualitatively as the case may demand. In particular must such people be guarded against the intrusion of worry and dread in association with illness; it must be borne in mind that any illness, however apparently trivial from the physical standpoint, may become a fruitful source of dread in the days to come. People with certain illnesses dread certain consequences, and it is the duty of the doctor in attendance to forestall such dreads; the more carefully and impressively they are considered and dismissed, the more thoroughly are certain potentially destructive elements removed from the psychical environment. Heart disease, consumption, insanity, and malignant disease are standard fears to the majority of civilized mankind, and no opportunity is to be lost of impressing upon patients that in any particular illness from which they suffer or have been suffering these conditions do not arise. And the impressions are to be given before the patient has raised the point himself; they are to be implicit rather than explicit, but at the same time they are to be definite. The doctor should make a point of acquainting

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himself with any special dreads that the patient may have, and deal with them in the same way; considerable trouble may thereby be implied, but the results will amply justify this.

To take a case in point, it often happens that the suspicion of masturbation arises in the case of a boy who is brought up for examination for some possibly indifferent condition, or for some unaccountable moodiness and depression that may or may not be associated with the suspected habit. In the event of the lad being shy, it is far better not to ask any direct question, but in the course of a conversation to mention casually that the habit in question is not uncommon; that it does not lead to insanity or to epilepsy, and that, disagreeable and wrong as it may be, it is not necessarily associated with sterility. The patient should be told that its risk lies in rendering commonplace an act which should, to him, be out of the ordinary and rare, and this aspect should be impressed upon him, and the advisability of controlling himself should be indicated just as any other act should be properly controlled.

In the event of the patient admitting that he is given to the habit, these statements can be made directly and personally; otherwise it is well to bring them into a psychotherapeutic talk indirectly, and as an illustration of the importance of self-control.

FUNCTIONAL SYMPTOMS WHICH SUPERVENE UPON SURGICAL TREATMENT.

These constitute the most difficult of all conditions to alleviate; they may be described as the neurosis of the scar, and they are found for the most part in association with multiple laparotomy scars, amputation stumps, and such pelvic abnormalities as have necessitated the minor gynæcological operative procedures. The same broad principles have to be followed out: relief of dread, and radical alteration of the environment associated with the rise of the symptoms.

The patients must be thoroughly convinced that they are not to have any further operative treatment; but the circumstances are complicated by the fact that the pain and discomfort with which they associate their original operations are still present; in fact, in most cases they are worse than they were at first. The patients inevitably think that, if now no operations are to be performed, then those which were performed must have been wrongful and productive of their present disablement; they either fix their resentment upon the surgeon, or frankly disbelieve the statements made by the physician who recognizes the functional nature of their condition. Conviction is always excessively difficult in these cases,

and is to be directed to: the necessity of the operative procedures they have undergone; the success of such procedures as far as the original condition is concerned; the functional nature of their present troubles; and the inadmissibility of any further operative treatment. Such psychotherapeutic conversations demand a very considerable degree of resource and a great amount of patience, and they inevitably fail if at the same time the patient's surroundings be not efficiently modified. The environment which is most destructive to attempts at healing is that of invalidism, and the prospect of improvement is greatly enhanced if proper occupation can be instituted. In the case of young people this can be quite reasonably insisted upon; with older patients, and especially in the case of women between forty and fifty, the difficulties are very great. But it may be said that unless and until bodily and mental occupation be engaged upon, little or no improvement can be expected.

These patients are to be informed that they must not wait until their pain goes before they begin to do work of some sort; the occupation must precede the improvement. It is necessary, therefore, that such work as they do should be congenial and in accordance with their mental trends; it should not be laborious, at any rate at first, but the patient is to be made to realize that he will be able to undertake such work in the near future. In the case of painful amputation stumps, removal from the surgical atmosphere is of the first importance, and the patient is to practise daily, and several times a day, the wearing of the artificial limb; he is to be told that as long as he does not accustom himself to this, just so long will the pain persist whenever he attempts to wear it; that the quickest way of easing a tender scar is to accustom it to pressure.*

Scar neuroses in all people are difficult to treat; in young people, patient psychotherapeutic conversations and radical alteration of the environment so as to include work are in the course of time associated with cure; but in older patients the outlook is very bad, and such people readily become hyperthymic and impossible of treatment in their home surroundings. In all cases blood-pressure observations are to be taken from time to time, and the administration of the iodide and bromide mixture already mentioned is advisable. Local treatment by massage, faradism, ionization of the scars, and so forth, is best withheld, as these perpetuate the atmosphere of invalidism and impede occupation.

* Of course it is understood that no gross pathological abnormality is existent which renders the scar hyperæsthetic; the conditions under discussion are those which have been treated surgically and successfully as far as the peripheral determinants of the pain are concerned.

SUMMARY.

Cases of functional nervous disorders fall into the following groups from the point of view of treatment, and this grouping would appear to be borne out by their psychical, evolutionary, and clinical aspects :—

A. RETROGRESSIVE DISORDERS : The Hysterias.

B. PROGRESSIVE DISORDERS : The Sympathetic Neuroses.

1. *The Distortion-Neuroses :* Centrifugal Dysthymia.
Centripetal Dysthymia.

2. *The Memory-Neuroses :* The Ordinary Mnemoneurosis.
The Obsessive Mnemoneurosis.

The hyperthymic state is not in itself a functional nervous disorder, but a condition of emotional uncontrol necessarily associated with the retrogressive group, and of liable supervention upon those of the progressive.

1. Logical treatment of the functional nervous disorders aims at the resolution of the neurosis in the patient's own consciousness.

2. The essential principle in the treatment of hysterical conditions is to render the symptom in itself a source of vexation to the patient. No distaste is to be allowed to attach to the physician treating, and the annoyance associated with the method adopted is to be associated with the symptom necessitating such a method.

The treatment must be such as in no conceivable way to conform to the centripetal orientation of the patient.

3. The essentials in the treatment of the dysthymias are : The immediate and radical alteration of the responsible environment : the ensuring of regular sleep ; and the occupation of the patient upon congenial remunerative work. An atmosphere of invalidism in particular is to be avoided, and the occurrence of any dread is to be forestalled by psychotherapeutic conversations in the early stage.

4. The ordinary form of the mnemoneurosis is to be treated by the removal of the dread operative, the reduction of the blood-pressure by the usual clinical means, and the modification of the patient's work so as to eliminate any recurrence of dread and to bring an element of pleasure into his life.

5. The form of obsessive mnemoneurosis which obtains in civil life is to be treated by psycho-analytic methods, and the specific incident is to be recovered thereby as far as possible in the full consciousness of the patient. It is possible, however, in the event of there being any difficulty in such recovery, that the light hypnosis recommended by William Brown and Myers for cases of the war

obsessive mnemoneurosis may usefully be employed to aid such recovery.

On recovery of the incident it is to be presented properly to the patient's own consciousness; it is to be synthesized carefully into the patient's conscious life.

6. The obsessive mnemoneurosis peculiar to the war is to be treated by light hypnosis in combination with conscious associations, a proper synthesis being thereby effected. The subsequent treatment of such cases is to be on the lines of treatment in dysthymias.

7. Any functional nervous disorder which is complicated by the hyperthymic state cannot be treated in the home surroundings. Such cases should have the essentials of their treatment carried out in specialized institutions.

INDEX

	PAGE		PAGE
A DAPTABILITY to surroundings, the centripetal and centrifugal phases	11	Association, relation of hysterical spasms to	145
Adjustment, environment of (<i>see</i> Environment)		Associational dispositions, archaic ..	76
Affection, the dominant tone in the neurosis of unsatisfied desire..	211	— — hysteria only established when normal	167
Age in etiology of anger-neurosis ..	209	— — influence in hysteria	76
— — hysteria	98	— tests in hysteria	102
— — the mnemoneuroses	230	Associations, egoistic	82
Alienism (<i>see also</i> Insanity), diagnosis from	294	— powers of constructing, in man and in non-human animals ..	42
— possible extension from functional disorders	296	— recent, primary exotic	78
Altruism and egocentricity, association of in the hysterical individual	101	— — — somatic	76
Amnesia for dreams	257	— — secondary exotic	79
— in hysteria	134	— — — somatic	79
— as a post-hypnotic effect	156	Authority, submission to, and the herd instinct	46
— progressive, of secondary hysteria	171		
— relation to psychical dissociation 25, 44,	166	B ABINSKI reflex spasm of fingers in tertiary hysteria	141
— of relative inattention	245	Behaviour, the herd instinct and ..	45
— retrogressive, of secondary hysteria	172	— herd suggestion and	48
Amœba, adaptability to surroundings of	11	— of the hysterical individual ..	84
Anæsthesiæ in secondary hysteria ..	132	— — — primary hysteria	84
Anger-emotion, dissociation associated with	26	— — — secondary hysteria.. ..	88
— impulse to fight under	23	— — — tertiary hysteria	89
Anger-neurosis, the	207	— influence of psychical censorship..	49
— the anger-dream in	209	— in man compared with that in lower animals	40
— conjugal and domestic conditions in relation to	210, 342	— — — — summary	53
— emotional content of	260, 266	— — — conscious memory and ..	40
— etiological factors	209	— — extended powers of construct- ing associations	42
— in hyperthymic people	219	— — modification of dissociation by emotional control	40
— psychical symptoms	209	— — through speech and writing ..	43
— somatic symptoms.. .. .	208	— — relation of dissociation to ordinary forgetfulness	42
— treatment	341	-- relation of schizophrenia to	49
Anorexia, hysterical	133	Blepharospasm in tertiary hysteria	140, 141
Anosmia, hysterical	132	Blood-pressure, high, diagnosis in cases with	298
Aphasia in secondary hysteria	134	— in mnemoneurotic pain	233
Arm, spasm of, in tertiary hysteria ..	140	— rectification of, in mnemoneuroses	349
Arteries, association with pain in the mnemoneuroses	232	Blood-vascular system, close associa- tion with emotional activity ..	231
Arteriosclerosis, diagnosis of functional disorders from	298	Body mechanism subserving flight ..	199
— in the mnemoneuroses	236, 308	Brown and Myers on obsessional war mnemoneurosis	252, 355
— supervening on mnemoneurosis ..	348		
Associates, essential, of hysteria ..	66	C AUSALGIA	162
Association and dissociation, schematic representation of	180	Causation of functional nervous disorders not yet demonstrated	2
— formation, grouping of mankind in relation to	51	— — — — organic theories of ..	4

	PAGE		PAGE
Causation of functional nervous disorders, psychological theories of	4	Concentration of consciousness in hysteria	71
— — — — supernatural theories as to	3	— impairment of, in the mnemonosclerosis	235, 249
Celibacy in relation to centripetal dysthymia	214	— tests in diagnosis of hysteria	113
Censorship, psychical, and herd-suggestion	49	Conflict, psychical, the basis of	16
Centrifugal and centripetal tones, relation to psychical dissociation	37	— — a manifestation of the struggle for existence	46
— determination of the ego in centripetal neuroses	216	Confusional insanity, diagnosis of centrifugal dysthymia from	295
— dysthymia, diagnosis from general paresis	300	— — in the centripetal dysthymias	217
— — — from other functional disorders	303	— — and the functional nervous disorders	284
— — emotional content of dream in	263	Congenital determination and the functional nervous disorders	284
— — incompatibility of hysteria with	289	Conjugal factors in the anger-neurosis	210, 342
— — prognosis	310	Consciousness, limitation of the field of, in hysteria	71, 120
— — treatment	337	— psychogalvanic reflex in postulating	109
— — — avoidance of ideas of disablement	339	Conversations, psychotherapeutic, in anger-neurosis	343
— — — psychotherapeutic conversations	339	— — in centrifugal dysthymia	339
— — — provision of work	340	— — in the mnemonosclerosis	349, 357
— — — rectification of environment	338	— — in secondary hyperthymia	353
— ego-associations, factors predisposing to	224	Curiosity, instinct of	24
— emotional control, dysthymias associated with	207		
— — tone, association of psychical dissociation with	25, 37	D EAFNESS, hysterical	132
— — — difference of rôle in human and non-human animal	75	Definition of functional nervous disorders	1
— — — distinguishing characteristics	17	— — — summary	38
Centripetal and centrifugal phases of adaptability	11	Dementia praecox, diagnosis of hysteria from	294
— determination of the ego, an essential associate of hysteria	82	Depression, diagnosis in states of	295
— — — in perpetuating hysterical behaviour	94	Desire, neurosis of unsatisfied	211
— dysthymia, emotional content of dream in	267	Determination, congenital (<i>see</i> Congenital Determination)	
— — prognosis	310	— environment of (<i>see</i> Environment)	
— — treatment	341	Diagnosis of functional nervous disorders	293, 303
— — emotional tone, distinguishing characteristics	19	— — — — from alienism	294
— — — dysthymias associated with	211	— — — — arteriosclerosis	298
— — — non-association with psychical dissociation	25, 27, 37	— — — — disseminated sclerosis	299
Charcot's investigations on functional nervous disorders	4	— — — — epilepsy	296
Childhood, determination of centrifugal ego-association in	225	— — — — exclusion of organic disease	293
— ill health in, in etiology of hysteria	100	— of hysterical symptoms in organic disease	293
Children, bringing up of, influence in hysteria	67	Diffusibility of emotional tones, in reference to centripetal and centrifugal tones	72
Classification of functional nervous disorders, clinical	64	Diffusion of emotional tone in hysteria	71, 90
— — — — psychical	55	— — — schematic representations of	180
Clinical classification of functional nervous disorders	64	— or non-diffusion of emotional disturbances	165, 178
Clonic protective spasms in hysteria	111	Disorderly action of the heart in relation to terror-neurosis	205
Conative activity, relation to psychical tone	15	Disseminated sclerosis, diagnosis from	299
		Dissociated personality in hysteria	124
		— systems in relation to the hysterical fit	122
		Dissociation	165
		— and association, schematic representation of	180
		— effect of absence or presence on emotional tone	25

INDEX

365

	PAGE		PAGE
Dissociation, essential factors in	165, 178	Dysthymia, congenital determination	286
— in hysteria, primary	168	— non-operative in	286
— — secondary	170	— danger of mnemoneuroses follow-	339
— — tertiary	173	— ing	339
— of limbs in secondary hysteria ..	133	— diagnosis from other functional	303
— modification by emotional control ..	41	— disorders	303
— non-registration of an incident 166, 178		— emotional content of dreams in 263, 267	
— relation of amnesia to	165	— in hyperthymic people, treatment ..	345
— — to centrifugal and centripetal		— — — in institutions	346
tones	37	— influence of trauma	283
— — emotional tones in hysteria ..	70	— pain in precipitation of	288
— — hysteria	41	— — as a symptom in	289
— — of hysterical spasms to mechan-		— prognosis in	310
ism of	145	— relation of surgical treatment to ..	303
— — to memory	25, 41	— the rôle of emotional control in ..	60
— — ordinary forgetfulness	44	— schizophrenic reaction in the ..	220
— tests for estimating degree of ..	105	— of sex, treatment	345
Distinction between functional nervous		— summary of conclusions regarding ..	220
disorders and insanity	63	Dysthymic conditions, non-co-existence	
Domestic service in relation to the		of hysteria with	290
anger-neurosis	210, 343	— — in hyperthymic people	218
Dread in an atmosphere of disease ..	303		
— determination of arteriosclerosis by ..	299	E	
— development of, in the mnemo-		EGOCENTRICITY and altruism, associ-	
neuroses	227	ation of, in the hysterical	
— effect on gastro-intestinal func-		individual	101
tions	236	Egoistic associations, relation to	
— removal of, in mnemoneuroses ..	348, 357	hysteria	82
— superimposition on ordinary inci-		Electrical treatment in hysteria ..	327
dents	242	Emotion, Janet's definition of ..	13
Dream the, and its clinical significance	256	Emotional content of the dream ..	258
— analysis, neuroses suitable and		— control and the centrifugal deter-	
unsuitable for	271	mination of the ego	224
— in centripetal distortion-neuroses ..	215, 216	— — effect of public-school life in	
— emotional content of	258	fostering	100
— — — in centrifugal dysthymia ..	263	— — modification of psychical disso-	
— — — centripetal dysthymia ..	267	ciation by	41
— — — hysteria	262	— — summary in relation to classifi-	
— — — mnemoneurosis	268	cation of disorders	65
— examination of patient as to ..	315	— — the varying intensities of ..	74
— Freud and the mechanism of the ..	256	— disturbance, diffusion or non-	
— in hysterical people	117	diffusion of	165, 178
— incident content of the	269	— factors in functional nervous	
— in the mnemoneuroses	239, 249	disorders	57
— of unsatisfied desire	267	— — — — the dysthymias	60
— summary of conclusions	273	— — — — the hysterias	57
— the anger-	209	— — — — mnemoneuroses	58
— — laughter-	263	— reactions, contrast in centrifugal	
— — sexual	261	and centripetal tones ..	17, 19
— — terror-	203, 263	— — somatic response, psychical	
— — worry-	268	dissociation, and familiarity ..	38
Drug treatment in hysteria	319	— tone disturbance, psychogalvanic	
Dual personality in hysteria	124	reflex in	107
Dysthymia associated with centri-		— tones, grouping of	30
fugal emotional-tones: terror-		— — habitual action under influence	
neurosis	199	of	20, 24
— — — the anger-neurosis	207	— — potentially accompanied by	
— — — centripetal emotional tones:		psychical dissociation	37
the neurosis of unsatisfied		Emotions and their associated bodily	
desire	211	and intellectual states	9
— association of sex-instinct with ..	278	— rôle of, in etiology of functional	
— centrifugal (<i>see</i> Centrifugal Dys-		nervous disorders	6
thymia)		— study of, in relation to hysteria ..	70
— centripetal (<i>see</i> Centripetal Dys-		Environment, adaptability to ..	10
thymia)		— — the centripetal and centrifugal	
		phases	11
		— of adjustment in hysteria	69
		— — the mnemoneuroses	227

	PAGE		PAGE
Environment, change of, in mnemo- neuroses	350	G ALVANOMETER, use in diagnosis of hysteria	107
— of determination, in hysteria ..	67	Gassing, relation to hysterical vomiting ..	150
— — the mnemoneuroses	225	Gastro-intestinal symptoms in the mnemoneuroses	236
— development of familiarity with ..	20, 24, 38	General paralysis of the insane, diag- nosis from	300
— in distinction between functional nervous disorders and insanity ..	63	Gregariousness, the herd an advance- ment from mere	45
— grouping as regards determination and adjustment	63		
— influence of	7		
— rectification of, in centrifugal dysthymia	338	H ABITUAL action basis of, in hysteria ..	142
Environmental defects, disorders developed in association with ..	62	— — Factors tending to favour ..	143
— factors in the functional nervous disorders	62	— — grouping of instincts causing ..	30
— — hysteria	67	— — under influence of emotional tones	20, 24
— — the mnemoneuroses	224	Happiness and unhappiness, relation to the herd instinct	46
Epilepsy, diagnosis from functional nervous disorders	296	Health, bad, in etiology of hysteria ..	100
— difference between hysteria and ..	169	— — — the mnemoneuroses	230
Evolution, human, lines of psychical development	51	Healy code method of concentration testing	114
Examination of patient, general scheme of	314	Hemiplegic symptoms in secondary hysteria	134
— — in hysteria	317	Herd-instinct, individual and biologic value of	45
Exotic associations, primary, in rela- tion to hysteria	78	— modifications of behaviour due to ..	45
Expectation as a factor in perpetuating hysterical behaviour	93	Herd-suggestion, importance in the life of the human unit	48
— mechanism of	90	— its part in construction of the dysthymias	60
— of pain in tertiary hysteria	136	— and schizophrenic phenomena	49
— rôle in tertiary hysteria	89	Herd-tendencies, development of	48
		Heredity (<i>see</i> Congenital Determina- tion)	
F ACTORS involved in the functional nervous disorders—emotional control	57	Hobbies and recreations, examination as to	314, 315
— — — environment	62	— and work in the centripetal dys- thymias	344
Familiarity with environment, de- velopment of	20, 24	— — simple mnemoneuroses	350
— grouping of instinctive activities causing	30	Holidays in the mnemoneuroses	350
Fear in atmosphere of disease	303	Home life, examination of patient as to	314, 315
Fingers, spasm of, in tertiary hysteria ..	140	Hyperpiesis in the mnemoneuroses	237
Fits, hysterical	122	Hyperthymia	161
Flight, body mechanism subserving ..	199	— apparent combination of mnemo- neuroses with	289
Foot, spasmodic inversion of, in ter- tiary hysteria	137	— diagnosis from other functional disorders	304
Forgetfulness (<i>see</i> Amnesia)		— dysthymic symptoms with 218, 290, ..	305
— ordinary, relation of dissociation to ..	41	— — — treatment	345
Freud and the mechanism of the dream ..	256	— — — institutional	346
— rôle of the sex-instinct	275	— the problem of causalgia and	162
— his work on functional nervous disorders	5	— prognosis	312
Freudian application of the word 'sex' ..	212	— reaction to pain in	161
Fright, emotional tone induced by	21	— relation to hysteria	57, 161
— psychical dissociation associated with	26	— stage of, in the mnemoneuroses	236
Functional nervous disorders, some general considerations regard- ing	256, 275	— summary of conclusions as to in- fluence	65
— — — symptoms in surgical practice ..	301	Hyperthymic mnemoneurosis, insti- tutional treatment	353
— — — treatment	358	— — prognosis	309
— and organic symptoms, psycho- galvanic reflex in discriminating between	109	Hypnosis, after-effects of	156
— symptoms, apparent, in general paresis	300	— effects of suggestion in	157
		— induction of	154
		— in obsessional war neuroses	252, 355
		— and sleep, Boris Sidis on	159
		— — in relation to hysteria	154

	PAGE		PAGE
Hypnosis in treatment of hysteria ..	330	Hysteria, schematic representation of association and dissociation ..	180
Hypnotic state, Charcot and Briquet's investigations	4	— secondary (<i>see also</i> Hysteria, Behaviour in; Hysteria, Symptoms in Secondary)	
— — condition of patient in ..	155	— — dissociation in	170
Hypnotics in the mnemoneuroses ..	350	— — sex instinct as an element in ..	276
— terror-neurosis	337, 341	— — sleep in relation to	158
Hysteria	66	— — symptoms	120, 159
— — associational dispositions and ..	75	— — the conscious element in ..	152
— — tests	102	— — dependence on environment ..	8
— — behaviour in	84	— — incidence in commissioned and non-commissioned ranks ..	73, 100
— — in primary	84	— — maintenance of	92, 151
— — secondary	88	— — — factor of centripetal orientation of the ego ..	94
— — tertiary	89	— — — expectation	93
— — — elements in constitution of ..	91	— — in primary, dissociated personality	124
— change of symptoms in neglected cases	94	— — — 'fits'	122
— — clinical aspects	97	— — — limitation of the field of consciousness ..	120
— — — summary	118	— — — phase of establishment ..	128
— — concentration of consciousness in ..	71	— — — inception	120
— — congenital determination and ..	284	— — — in secondary, amnesia ..	134
— — consideration of certain symptoms ..	120	— — — anaesthesia	132
— — — summary	159	— — — hemi-anaesthesia	134
— — diagnosis of, association tests in ..	102	— — — 'hemiplegia'	134
— — concentration tests	113	— — — limb paralyses	133
— — from dementia praecox	294	— — — pain associated with ..	129
— — disseminated sclerosis	299	— — in surgical practice	201
— — early organic disease of heart and lungs	293	— tertiary (<i>see also</i> Hysteria, Behaviour in)	
— — other functional disorders ..	302	— — dissociation in	173
— — psychogalvanic reflex in ..	197	— — muscle spasm in	137
— — reactions of the individual ..	101	— — rôle of expectation or suggestion in	89
— — schizophrenic reaction	115	— — treatment of	316
— — difference between epilepsy and ..	169	— — the cold-water douche ..	336
— — dissociation in relation to ..	41	— — electrical	327
— — dreams of, emotional content of	262	— — examination of the patient ..	317
— — emotions in relation to	57, 70	— — by hypnotism	330
— — essential associates of	66	— — isolation	321
— — etiological factors—age	98	— — massage	326
— — — sex	97	— — Reeves's method	325
— — — ill health	100	— — by suggestion	328
— — — social status	100	— — use of drugs	319
— — general considerations	66	— — Yealland's intensive method ..	324
— — — summary	95	— universal presence of elements of in the human	57
— — hypnosis in relation to	154	Hysterical individual, reactions of the ..	101
— — incompatibility with centrifugal neuroses	289	— — people, dreams in	117
— — influence of environment of adjustment	69	— — phobias	86
— — — determination	67	— — difference from mnemoneurotic ..	249
— — specific incidents	69	— — symptoms in organic disease ..	293
— — trauma	282	— — vomiting	150
— — memory in relation to	71		
— — only to be established with normal associational dispositions ..	167		
— — pain, non-existence of 'hysterical' ..	288		
— — in precipitation of	287		
— — as a symptom in	288		
— — primary (<i>see also</i> Hysteria, Behaviour in; Hysteria, Symptoms in Primary)			
— — — dissociation in	168		
— — probability of all mankind being hysterical	92		
— — prognosis	307		
— — relation of dissociation to mechanism of spasms in	145		
— — — hyperthymia to	57, 161		
		IMITATION, the herd instinct and ..	47
		— Inattention, relative, in the mnemoneurosis	245
		— — in war neurosis	251
		Inhibitory action of herd-suggestion ..	49
		Insanity, distinction between functional nervous disorders and ..	63
		— dread of, in centripetal distortion-neuroses	215, 217
		— relation of centripetal dysthymias to ..	217

	PAGE		PAGE
Insomnia in centrifugal dysthymia, treatment	338	Mental defectives, symptomatology sometimes indistinguishable from that of hysteria	119
— centripetal neuroses	217	— state of animal under influence of centrifugal and centripetal tones	18, 19
— mnemoneuroses, treatment	350	Mnemoneuroses, the	223
Instinct of the herd (<i>see</i> Herd-instinct)		— abnormal emotional control in	58
Instinct-distortion neuroses (<i>see also</i> Dysthymias)		— apparent combination of hyperthymia with	289, 305
— — emotional content of dream in	263	— association of sex-instinct with	279
— — summary of conclusions	220	— centrifugal orientation of ego in	223
Instinctive activities, grouping of	30	— congenital determination non-operative in	286
— — manifestations of attributes possessed by all living tissue	10	— danger of supervening on dysthymias	339
— — primary, clinical grouping of	196	— developing from centripetal neuroses	215
— — — from the clinical standpoint	22	— development of dread in	227
— — — McDougall's classification	9	— diagnosis from general paresis	300
Institutional methods in hyperthymic dysthymic cases	346	— — other functional disorders	303
— treatment in the anger-neurosis	342	— dysthymias co-existing with	290
— — of hyperthymic mnemoneurosis	353	— environmental factors	224
Isolation, psychological, in the mnemoneuroses	244	— — — adjustment	227
— treatment of hysteria	321	— — — determination	227
JANET's definition of emotion	13	— etiology	230
— investigations on functional nervous disorders	5	— hypnosis in	355
Jung's work on associational psychology	103	— indirect forms of (<i>see</i> Mnemoneuroses, Obsessional)	
LAUGHTER-DREAM	263	— influence of school life in predisposing to	225
Limb paralyses in secondary hysteria	133	— liability to confusion with alienation	63
Limbs, hemiplegic symptoms in, in secondary hysteria	134	— obsessional	240
Limitation of consciousness in hysteria	71	— — diagnosis of confusional insanity from	296
McDOUGALL on the rôle of the emotions	6	— — — factors determining manifestation of symptoms	251
— — the sex-instinct	275	— — — phobias in	242
— seven primary instinctive activities of	9	— — — difference from hysterical	249
— — — — clinical grouping of	196	— — — relative inattention in	245
— — — — — from the clinical standpoint	22	— — — symptomatology	248
Massage in hysteria	326	— — — treatment	353
Masturbation, method of inquiry as to	358	— — — — hypnosis	354
— relation to hysteria	280	— — — — psycho-analysis	354
Matrimonial relations and centrifugal dysthymia	210	— — — as a war neurosis	251
Melancholia, absence of environmental factor in	63	— — — — hypnosis in	252, 355
Memory, pictorial or conscious, essential association with the human animal	40	— — — — pain in precipitation of	288
— factors depending upon	71	— — — as a symptom	289
— impairment of, in the mnemoneurosis	236, 249	— — — primary stage: functional pain	230
— as an integral associate of increased association-dispositions	166	— — — prognosis in	308
— loss of (<i>see</i> Amnesia)		— — — secondary stage: hyperthymia	236
— relation to extended powers of constructing associations in man	12	— — — simple or direct form	223
— relation to psychical association and dissociation	25, 41	— — — summary of conclusions regarding	253
Memory-neuroses (<i>see</i> Mnemoneuroses)		— — — symptomatology, arteriosclerotic changes	236
		— — — blood-pressure	233
		— — — dreams	239, 249
		— — — factors determining site of incidence of pain	233
		— — — functional pain	230
		— — — hyperthymia	236
		— — — psychical symptoms of primary stage	235
		— — — — of secondary stage	238
		— — — somatic symptoms	236
		— — — trauma and the	283
		— — — treatment, institutional	353
		— — — psychotherapeutic conversations	349

	PAGE		PAGE
Mnemononeurosis, treatment, rectification of blood-pressure ..	349	Possession by spirits as a cause of functional nervous disorders, the theory of ..	3
— — removal of dread ..	348	Post-hypnotic phenomena ..	156
— — rôle of work and holidays ..	350	Post-operative hysterical vomiting ..	302
— — sleeplessness ..	350	— neuroses, treatment ..	358
Mnemonerotie symptoms in surgical practice ..	301	Pre-conative state of organism ..	12
Muscle-spasm in tertiary hysteria ..	137	Primary hysteria (<i>see also</i> Hysteria)	
Myers and Brown on obsessional war mnemononeurosis ..	252, 355	— — behaviour in ..	86
— on the rôle of the emotions ..	6	— — sexuality and ..	276
		— — symptoms in ..	120
		— instinctive activities, clinical grouping of ..	30, 196
		— — — from the clinical standpoint ..	22
		— — — McDougall's classification ..	9
NERVOUS instability, history of, in centripetal dysthymias ..	218	Prognosis of the functional nervous disorders ..	307
Neurasthenia (<i>see also</i> Mnemononeuroses; Dysthymias: Hyperthymia)		— — — the dysthymias ..	310
— prognosis ..	309	— — — hyperthymia ..	312
— the secondary stage of the mnemononeurosis ..	236	— — — hysteria ..	307
Neuroses, reflex, in hyperthymic subjects ..	163	— — — the mnemononeuroses ..	308
Neurosis of the scar ..	301, 358	Progressive group of neuroses ..	194
— unsatisfied desire ..	211	— — — instinct-distortion neuroses or dysthymias ..	199
— — — sex element in ..	212	— — — preliminary considerations ..	191
		— — — summary of classification ..	65
		— and regressive disorders, clinical grouping of ..	64
		— — — mutual incompatibility of ..	289, 292, 305
		— — — psychical grouping of ..	56
		Protoplasm, adaptability to surroundings of ..	11
		— inherent driving force in ..	15
		Psychical association (<i>see</i> Association)	
		— censorship, essential attribute of herd-experience and herd-suggestion ..	49
		— classification of functional nervous disorders ..	55
		— dissociation (<i>see</i> Dissociation)	
		— reactions of non-human animal to pain ..	34
		— symptoms of the mnemononeuroses ..	235
		— theories of causation of functional nervous disorders ..	4
		— tone, relation to conation ..	15
		Psycho-analysis, value of the method in treatment of hysteria ..	333
		— in obsessional mnemononeurosis ..	354
		Psychogalvanometry in diagnosis of hysteria ..	107
		Public-school life, effect in fostering emotional control ..	100
		— — — predisposing to centrifugal ego-associations ..	226
PAIN, as a symptom ..	288	REACTION to pain in hyperthymia ..	161
— different effects of sudden and evanescent, and of continued ..	35, 36	Reactions of the hysterical individual ..	101
— etiological rôle of ..	287	— psychical, of non-human animal to pain ..	34
— expectation of, in tertiary hysteria ..	136	Recreations and hobbies, examination as to ..	314, 315
— functional, in surgical practice ..	302	Reeves's 'intensive' method in hysteria ..	325
— in the mnemononeuroses ..	230	Reflex neuroses in hyperthymic subjects ..	163
— — blood-pressure in ..	233		
— — factors determining site of incidence ..	232		
— psychical reactions of non-human animal to ..	34		
— reaction of hyperthymic people to ..	161		
— in secondary hysteria ..	129		
Paralyses of limbs in secondary hysteria ..	133		
Paralysis, general, diagnosis from functional nervous disorders ..	300		
Personality, dual or dissociated, in hysteria ..	124		
Petit mal, diagnosis from hysteria ..	297		
Phobias, difference between mnemonerotie and hysterical ..	249		
— hysterical ..	86		
— in the mnemononeuroses ..	242		
Pleasure and pain, use of the terms ..	15		

	PAGE		PAGE
Registration of an incident, occurrence in men	166	Spirits, theory of possession by, as a cause of functional nervous disorders	3
Regressive group of neuroses	66	Stammering in the terror-neurosis	201
— — summary of classification	65	Sternomastoid spasm in tertiary hysteria	140, 111
— and progressive disorders, clinical grouping of	64	Submission to authority, an important herd-instinct associate	46
— — — mutual incompatibility of	289, 292, 305	Suggestion, herd, in relation to behaviour	48
— — — psychological grouping of	56	— mechanism of	90
Relation of functional nervous disorders to each other	289	— methods of treatment in hysteria	328
Relative inattention in the mnemoneurosis	245	— — — — psycho-analysis	350
— — relation to war neurosis	251, 355	— rôle of, in tertiary hysteria	89
SCAR, neurosis of the	301, 358	Supernatural theories as to etiology of functional nervous disorders	3
Schematic representation of association and dissociation	180	Surgical practice, functional nervous symptoms in	301
Schizophrenia in relation to herd-suggestion	49	— — — — — treatment	358
Schizophrenic reaction in the dysthymias	220	Sympathetic or progressive group of neuroses	194
— — hysteria	115	— system, grouping of disorders in relation to	64
School life, examination as to	314	Symptomatology of hysteria	161
— — influence in fostering emotional control	100	— the mnemoneuroses	230
— — — predisposing to centrifugal ego-associations	226	— — — — — obsessional form	248
Secondary hysteria (<i>see also</i> Hysteria)	88	Symptoms, definition of functional nervous disorders based on, out of place	1
— — behaviour in	277	— functional nervous, in surgical practice	301
— — sexuality and	129	— — — — — treatment	355
— — symptoms in	129		
Senility, premature, following the mnemoneurosis	348	TACHYCARDIA in terror-neurosis	201, 340
Sex dysthymia, treatment	345	Taste and smell, loss of, in secondary hysteria	132
— in etiology of hysteria	97	Tenderness, areas of, in surgical practice	302
— — of the mnemoneuroses	230	— emotion of	20
— horror, hunger, worry	276	Terror-dream, the	203
— illogicality of Freud's nomenclature	212	— and emotional content	259
— instinct, association with the dysthymias	278	— in the mnemoneuroses	240, 249
— — — mnemoneuroses	279	Terror-neurosis, the (<i>see also</i> Dysthymia, Centrifugal)	
— — as an element in hysteria	276	— course of the	204
— rôle in formation of neuroses	275	— psychological symptoms	201
Sexual dream, emotional content of	261	— relation to disorderly action of the heart	205
— — incident content of	269	— somatic symptoms	200
— life, examination as to	314	— treatment	337
— relations and the anger-neurosis	210	— — provision of work	340
Sexuality, Freud's use of the word	6	— — — psychotherapeutic conversations	339
Sidis, Boris, on the nature of sleep	159	— — — rectification of environment	338
Sleep and hypnosis, Boris Sidis on	159	Tertiary hysteria (<i>see also</i> Hysteria)	89
— in relation to hysteria	158	— — behaviour in	276
Sleeplessness (<i>see</i> Insomnia)		— — sexuality and	102
Social status in etiology of hysteria	73, 100	— concentration, in hysteria	113
— — — of the mnemoneuroses	230	Thighs, adduction of, in tertiary hysteria	140
Somatic activities, relief of, in relation to centripetal dysthymias	213	Tonic spasms in tertiary hysteria	137
— associations, relation to hysteria	76	Torticollis, hysterical	141
— response to emotional tone	18, 19, 38	Trauma, influence in dysthymias	283
— symptoms in the mnemoneuroses	236	— — functional nervous disorders	281
Spasms, hysterical, in relation to mechanism of dissociation	145	— — hysteria	282
— of muscles in hysteria, clonic	141	— — the mnemoneuroses	283
— — — — tonic	137		
Speech affection in the terror-neurosis	201		
— and writing, modification of behaviour due to	45		

	PAGE		PAGE
Treatment of functional nervous disorders (<i>see also under</i> Dysthymias, Hysteria, Mnemoneuroses)	312	VASCULAR basis of pain in the mnemoneuroses	231
— of the dysthymias	337	Vomiting, hysterical	150
— functional nervous symptoms in surgical practice	358	— — post-operative	392
— general considerations	313	WAR neurosis, hypnotism in	252, 255
— of hysteria	316	— — — obsessional mnemoneurosis as a	251
— the mnemoneuroses	348	Weir Mitchell method, modified, in hysteria	323, 326
— scheme of examination and its bearing on	314	Wender emotion, effect of	24
— summary of conclusions	360	Worry dreams in the mnemoneuroses	240, 249
Tremors of the terror-neurosis	201	— effect on gastro-intestinal functions	236
Trismus in tertiary hysteria	140	Writing and speech, modification of behaviour due to	45
UNSATISFIED desire, neurosis of	211	YEALLAND'S 'intensive' method in the treatment of hysteria	224

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